

# **FACT SHEET FOR INDUSTRIAL STORMWATER GENERAL PERMIT**

## **SUMMARY**

This fact sheet is a companion document to the revised National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Industrial Activities (Industrial Stormwater General Permit). The proposed permit authorizes discharge of stormwater only. Discharges of process water are not included under this permit and must be authorized under a separate permit. This fact sheet explains the nature of the discharges, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions. Public involvement information is contained in Appendix A.

Ecology first issued its baseline stormwater general permit on November 18, 1992, covering both industrial and construction activities. When reissued in 1995, Ecology decided to move construction activities into a separate permit. The 1995 industrial stormwater general permit was reissued by Ecology on October 4, 2000 with an expiration date of November 18, 2005. Ecology is proposing to revoke that permit and reissue it effective July 5, 2002. The proposed permit would expire on July 5, 2007. This action is necessary to incorporate permit changes that provide a compliance pathway for facilities that previously did not require coverage. The compliance pathway must be available by March 10, 2003 as prescribed by the Environmental Protection Agency (EPA) Stormwater Phase 2 Regulations. Revising and reissuing the permit was also a condition of settling the appeal of the industrial stormwater general permit issued in October 2000.

The proposed permit includes some significant changes. The previous permit lacked easily available tangible evidence of how well facilities were managing stormwater. Only onsite visits provided this information. In order to provide tangible evidence that would be readily available to the public as well, Ecology has included monitoring and analysis of stormwater for a few representative pollutants in the proposed permit. The revised permit also clearly states that stormwater discharges must comply with standards and defines how a mixing zone may be applied to determine compliance with water quality standards. This fact sheet discusses these issues and the other significant regulatory requirements of the proposed permit.

This proposed general permit limits the discharge of pollutants to surface waters under the authority of the Federal Water Pollution Control Act (U.S.C.S. 1251) and limits the discharge of pollutants to surface and ground water under the authority of Chapter 90.48 RCW.

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## INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System permit program (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing general permits (Chapter 173-226 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the proposed permit. One of the requirements (WAC 173-226-110) for issuing a general permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the proposed permit is issued (WAC 173-226-130). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. The fact sheet will not be revised. Comments and the resultant changes to the proposed permit will be summarized in Appendix D--Response to Comments.

## BACKGROUND INFORMATION

### DESCRIPTION OF PERMIT COVERAGE

#### HISTORY

Ecology first issued its baseline stormwater general permit for stormwater discharges on November 18, 1992. The general permit covered both industrial and construction activities. When reissued in 1995, Ecology decided to take a limited approach due to time limitations and uncertainties on future stormwater permitting strategy. The minimal approach included issuing separate permits for industrial and construction activities, increasing the permit cycle to five years, and excluding mandatory effluent limits and sampling and analysis. Ecology considered the input of an advisory committee in developing the 1995 baseline general permit for stormwater discharges from industrial and construction activities. Ecology issued the Industrial Stormwater General Permit on November 18, 1995 with an expiration date of November 18, 2000.

As required by law, Ecology reissues NPDES permits every 5 years. Ecology reissued the industrial stormwater general permit on October 4, 2000. The permit, which became effective on November 18, 2000, had no substantive changes. Only changes that made the permit consistent with the revised timeframe were made. The reissued permit became effective on November 18, 2000 with an expiration date of November 18, 2005. However, Ecology fully intended to revise and replace this permit before the expiration date. That intention was fully disclosed in the fact sheet that accompanied the November 2000 permit:

*“The existing stormwater general permit expires on November 18, 2000. It is critical that Ecology has a replacement permit in place when the industrial stormwater general permit expires. The November date however, did not work well for implementing the new requirements under “Phase II Storm Water Regulations” that were published by the Environmental Protection Agency (EPA) in December 1999. Implementation of permitting for municipal facilities that were exempt under EPA’s 1990 regulations, for instance, is not required under Phase II until March 2003. In order to proceed as efficiently as possible and avoid doing the same work twice, Ecology decided to make revising and reissuing this permit a two step process.”*

The two step process included an immediate reissue without substantive changes followed by a thorough examination and revision of the permit. The intent was to reissue the permit before March 10, 2003.

A Notice of Appeal was filed on November 17, 2000 by Puget Soundkeeper Alliance, Waste Action Project, Washington Public Employees for Environmental Responsibility, Resources for Sustainable Communities, and Citizens for a Healthy Bay. The Association of Washington Business filed a motion to intervene and became party to the case. In response to the litigation, Ecology altered its approach to revising the permit. Ecology did not conduct an informal public process to examine stormwater issues associated with the reissued permit as intended. Ecology did examine the issues raised by the appeal, and issues and proposals made by parties to the appeal. Ecology also consulted with staff that are responsible for managing the coverage of facilities under the permit. Revisions were made to address these issues and to implement EPA’s Phase II Storm Water Regulations. Public comment will be received through the formal comment period as outlined in Appendix A – Public Involvement Process.

#### GENERAL PERMIT APPROACH

A general permit approach for industrial stormwater is an appropriate permitting approach for the following reasons:

- A general permit is the most efficient method to handle the large number of industrial stormwater permit applications;
- The application requirements for coverage under a general permit are far less rigorous than individual permit application requirements and hence more cost effective;
- A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the Clean Water Act in designing a workable and reasonable permitting system;
- A general permit is an efficient method to establish the essential regulatory requirements that are appropriate for a broad base of industrial activities;

A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are sufficiently similar and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges. In most cases the proposed general permit will provide sufficient and appropriate stormwater management requirements for discharges of stormwater from industrial sites.

#### SCOPE OF PERMIT COVERAGE

The industrial stormwater general permit is a statewide permit that provides coverage for discharges of stormwater associated with many industrial activities within the State of Washington. Special Condition S1 defines which facilities are eligible for coverage under the proposed permit and Special Condition S2 provides the requirements for obtaining coverage. In general, coverage is required for industrial facilities that discharge stormwater to surface water or to a stormwater conveyance system that discharges to surface water unless the facility can demonstrate “no exposure” of industrial activities to stormwater. Appendix C of the fact sheet provides a complete list of those industrial groups that are categorically included for coverage. Facilities in other industrial categories or with groundwater only discharges may be considered for coverage on a case-by-case basis. As of March 27, 2002, 1297 facilities had coverage under the industrial stormwater general permit.

There is a significant change in coverage requirements for facilities that classify as “light industry” (see Appendix C). In the previous permit they were not required to apply for permit coverage if their only “stormwater discharge associated with industrial activity is drainage from roofs or other surfaces exposed to air emissions from a manufacturing building or a process area...” This is what was known as “no exposure” of industrial activities to stormwater and in the original EPA development of the stormwater regulations, phase 1, “no exposure” only applied to light industry. The EPA in the phase 2 stormwater regulations revised the “no exposure” option to include all industrial activities. However, all facilities, including light industry, must submit a “no exposure” application to qualify for exemption from permit coverage. The proposed permit requires all those light industry facilities that were previously exempt from applying for permit coverage through “no exposure” to either apply for coverage or submit an application for “no exposure” within three months after the effective date of the permit.

Another significant change applies to industrial facilities owned or operated by municipalities with a population of less than 100,000. Based on EPA phase 1 stormwater regulations, the previous permit did not require these facilities to obtain coverage. These facilities are included in the EPA phase 2 stormwater regulations which require them to obtain a discharge permit by March 10, 2003. The proposed permit has implemented this requirement. Any previously exempt municipal facility that has an industrial activity identified by the permit for coverage (see Appendix C) and discharges to surface water must have permit coverage by March 10, 2003.

The proposed permit retains the language that expressly authorizes Ecology to regulate stormwater dischargers which are "significant contributors of pollutants" and which otherwise would not be permitted. The federal Clean Water Act at Section 402(p)(2)(E) gives the State of Washington (State) this authority as does the State mandate in chapter 90.48 RCW to protect waters of the state. Language was added to clarify that this provision does apply to facilities that discharge only to ground water when necessary to protect waters of the state.

Since a general permit is designed to provide environmental protection under conditions typical for the covered industrial groups, it will not be appropriate for every situation. Environmental protection cannot always be assured when site-specific conditions at a facility are not typical of the industrial group or pose environmental risks beyond the scope of the proposed general permit. The proposed permit does not guarantee coverage to all applicants based solely on their SIC code. Ecology can deny coverage under the general permit and require the application of an individual where site conditions warrant it.

In addition, Special Condition S1.C. identifies specific conditions where facilities are excluded from coverage under the proposed general permit and may require coverage under an individual permit. One exclusion applies to facilities subject to stormwater effluent limitation guidelines or new source performance standards as specified by the federal government in the code of federal regulations (CFR). In the previous permit all such facilities were excluded. In the proposed permit landfill facilities subject to stormwater effluent limits are included. The effluent limits were established February 2, 2000. There are landfill facilities with coverage under the industrial stormwater general permit that may be subject to the effluent limits. Rather than exclude them, the effluent limits have been added to the permit (see "Monitoring for Limits", page 41). The permit also incorporates effluent guidelines for coal piles. All other facilities subject to stormwater effluent limitation guidelines will be excluded from coverage (see Appendix C). Special Condition S1.C.6.&7. exclude coverage of discharges where the general permit is not sufficient to assure compliance with other regulations governing water quality protection. This could include special protections for ground water recharge zones or limitations established through watershed management agreements. It could also include discharges to impaired waterbodies if the conditions included in the proposed permit are insufficient to assure compliance with the legal requirements to protect these waters. These exclusions only apply at specific sites and under specific water quality requirements that are beyond the scope of the general permit. It is expected that most often the general permit will be appropriate and provide the necessary environmental protection.

Special Condition S2, Coverage Requirements, describes how to obtain coverage consistent with WAC 173-226-200. It explains public notice requirements, SEPA compliance and the effective date of coverage. There are some differences in application requirements for new facilities versus existing facilities. WAC 173-226-130 requires new operations and those under permit that are increasing or altering their discharge to notify the public of this intent in a newspaper of general circulation within the geographical area of the proposed discharge or change in discharge. Existing facilities (except those modifying their permit coverage) are not subject to that requirement. Chapter 173-226 WAC defines "new operation" as one that begins activities on or after the effective date of the permit. This has been applied in the proposed permit, defining existing facilities as those that were in operation prior to the 1995 permit effective date. Since facilities owned or operated by municipalities of less than 100,000 population were not subject to the permit in 1995, existing facilities for this category are defined in relation to the effective date of the proposed permit.

Existing facilities that have never been under permit for stormwater are provided with a compliance schedule to implement the permit requirements. This is a recognition that the facility is already in operation and that developing a satisfactory stormwater pollution prevention plan and implementing the plan requires time. This compliance schedule does not relieve the facility of any previous liability for discharging without a permit. Existing facilities that have been discharging stormwater in violation of applicable requirements for permit coverage may be subject to enforcement action.



On the effective date of the proposed permit, the current permit is revoked and replaced by the reissued permit. Facilities that have coverage under the existing industrial general permit will automatically be transferred to coverage under the revised permit, subject to the terms and conditions of the revised permit. This procedure is authorized under General Condition G8, General Permit Modification and Revocation, of the current permit and under WAC 173-226-230. The existing permit is being revoked and reissued to address significant issues that were raised through appeal of the existing permit and to implement the EPA stormwater phase 2 requirements in a timely fashion.

The permit requires applicants to submit their application for coverage at least 38 days before beginning operation or implementing a significant process change. This is the minimum amount of time that is legally required to issue coverage. The minimum amount of time is only possible when the applicant has submitted all the necessary paperwork, completed Public Notice, and there are no factors that require additional time such as a request for public hearing. Since the applicant is required to have permit coverage before they are authorized to discharge stormwater from an operating site, applicants should allow more time than 38 days. Issues such as discharging to impaired waters or environmentally sensitive waters are likely to add additional time to processing the application for coverage.

The permit requires facilities that currently have coverage to identify the waters that they discharge to by September 30, 2002. Ecology will mail the receiving waterbody form when the revised permit becomes effective. The purpose of this form is to assure that Ecology's data correctly identifies the receiving waterbody and the precise location of the point of discharge. This information is necessary to properly identify permit requirements related to impaired waterbodies.

#### *REVIEW OF INDUSTRIAL GROUPS*

The industrial stormwater general permit provides coverage for a broad range of industrial activities. The following discussion addresses groups of industrial activities that are related by "sources of potential pollutants". The groups are arranged alphabetically by a descriptive name for the group. The Standard Industrial Codes (SICs) that apply are also listed with the group name.

##### **AIRFIELDS AND AIRCRAFT TRANSPORTATION AND MAINTENANCE - SIC: 4500**

Description: Industrial activities include vehicle and equipment fueling, maintenance and cleaning, and aircraft/runway deicing.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 40 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Fueling is accomplished by tank trucks at the aircraft and is a source of spills. Dripping of fuel and engine fluids from the aircraft and at vehicle/equipment maintenance cleaning areas and the application of deicing materials to the aircraft and the runways are potential sources of stormwater contamination. Aircraft maintenance and cleaning produces a wide variety of waste products, similar to those found with any vehicle or equipment maintenance, including: used oil and cleaning solvents, paints, oil filters, soiled rags, and soapy wastewater. Deicing materials used on aircraft and/or runways include ethylene and propylene glycol, and urea. Other chemicals currently considered for ice control are sodium and potassium acetates, isopropyl alcohol, and sodium fluoride. Pollutant constituents include oil and grease, TSS, BOD, COD, TKN, pH and specific deicing components such as glycol and urea.

##### **CEMENT – SIC: 3241**

Description: These businesses produce Portland cement, the binder used in concrete for paving, buildings, pipe and other structural products. The three basic steps in cement manufacturing are:

1) proportioning, grinding, and blending raw materials; 2) heating raw materials to produce a hard, stony substance known as clinker; and 3) combining the clinker with other materials and grinding the mixture into a fine powdery form. The raw materials include limestone, silica, alumina, iron, chalk, oyster shell marl, or shale. Waste materials from other industries are often used such as slag, fly ash and spent blasting sand. Raw materials are crushed, mixed and heated in a kiln to produce the correct chemical composition. Kilns typically are coal, gas, or oil fired. The output of the kiln is a clinker that is ground to produce the final product.

The basic process may be wet or dry. In the wet process water is mixed with the raw ingredients in the initial crushing operation and in some cases is used to wash the material prior to use. Water may also be used in the air pollution control scrubber. The most significant waste material from cement production is the kiln dust. Concrete products may also be produced at ready-mix concrete facilities. Refer to "Concrete Products" for a description of the BMPs appropriate to these activities.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to one facility with primary activities falling under SIC 3241.

Sources of Potential Pollutants: Stormwater may be contaminated during the crushing, grinding, storage, and handling of kiln dust, limestone, shale, clay, coal, clinker, gypsum, anhydrite, slag, sand, and product and at the vehicle and equipment maintenance, fueling, and cleaning areas. Total suspended solids, aluminum, iron and other heavy metals, pH, COD, potassium, sulfate, and oil and grease are some of the potential pollutants. The following mean concentrations in stormwater discharges have been reported in the Environmental Protection Agency's (EPA's) multi-sector permit fact sheet (EPA, 1995): TSS=1067, COD=107.5, aluminum=72.6, iron=7.5, all in mg/L, and pH=2-12. These values may be useful in characterizing stormwater contaminants at cement manufacturing facilities.

#### CHEMICALS MANUFACTURING - SIC: 2800, 3861

Description: This group is engaged in the manufacture of chemicals, or products based on chemicals such as acids, alkalis, inks, chlorine, industrial gases, pigments, chemicals used in the production of synthetic resins, fibers and plastics, synthetic rubber, soaps and cleaners, pharmaceuticals, cosmetics, paints, varnishes, resins, photographic materials, chemicals, organic chemicals, agricultural chemicals, adhesives, sealants, and ink.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 67 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Activities that can contaminate stormwater include bagging, blending, packaging, crushing, milling, shredding, granulation, grinding, storage, distribution, loading/unloading, and processing of materials; equipment storage; application of fertilizers; foundries; lime application; use of machinery; material handling and warehousing; cooling towers; fueling; boilers; hazardous waste treatment, storage and disposal; wastewater treatment; plant yard areas of past industrial activity; access roads and tracks; drum washing, and maintenance and repair.

Chemical businesses in the Seattle area surveyed for Dangerous Wastes have been found to produce waste caustic solutions, soaps, heavy metal solutions, inorganic and organic chemicals, solvents, acids, alkalis, paints, varnishes, pharmaceuticals, and inks. The potential pollutants include BOD, TSS, COD, oil and grease, pH, total phosphorus, nitrates, nitrites, total Kjeldahl nitrogen, ammonia, specific organics, and heavy metals. EPA stormwater multi-sector permit fact sheet data includes the following mean values in mg/L except pH: BOD, 4.4-143.2; TSS, 35-

493; COD, 42.36-245.3; Oil and Grease, 0.3-6.0; NO<sub>2</sub>+NO<sub>3</sub>, 0.3-35.9; TKN, 1.3-108.9; tot. P, 0.1-65.7; ammonia, 40.45-73.22; Al, 1.20-1.78; Cu, .12-19; Mn, .56-. 71; Zn, 1.74-2.11; Fe, 2.24-3.52 and pH, 3.5-10.4. This data could be helpful in characterizing stormwater pollutants at the facility.

#### CONCRETE PRODUCTS - SIC: 3270

Description: Businesses that manufacture ready-mix concrete, gypsum products, concrete blocks and bricks, concrete sewer or drainage pipe, septic tanks, and prestressed concrete building components. SIC 3273, Ready-Mixed Concrete, is not eligible for coverage under the industrial stormwater general permit and will typically be covered under the sand and gravel general permit. Concrete is prepared on-site and poured into molds or forms to produce the desired product. The basic ingredients of concrete are sand, gravel, Portland cement, crushed stone, clay, and reinforcing steel for some products. Admixtures including fly ash, calcium chloride, triethanolamine, lignosulfonic acid, sulfonated hydrocarbon, fatty acid glyceride, or vinyl acetate, which may be added to obtain desired characteristics such as slower or more rapid curing times.

The first stage in the manufacturing process is proportioning cement, aggregate, admixtures and water, and then transporting the product to a rotary drum, or pan mixer. The mixture is then fed into an automatic block-molding machine that rams, presses, or vibrates the mixture into its final form. The final product is then stacked on iron framework cars where it cures in four hours. After being mixed in a central mixer, concrete is molded in the same manner as concrete block. The concrete cures in the forms for a number of hours. Forms are washed for reuse, and the concrete products are stored until they can be shipped.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 19 facilities under this category, fifteen of which were facilities producing concrete products.

Sources of Potential Pollutants: Pollutant generating activities/sources include stockpiles; washing of waste concrete from trucks, forms, equipment, and the general work area; and water from the curing of concrete products. Besides the basic ingredients for making concrete products, chemicals used in the curing of concrete and the removal of forms may end up in stormwater. These chemicals can include latex sealants, bitumastic coatings and release agents. Trucks and equipment maintained on-site may generate waste oil and solvents, and other waste materials. Potential pollutants include TSS, COD, BOD, pH, lead, iron, zinc, and oil and grease.

#### ELECTRICAL PRODUCTS - SIC: 3600, 3800

Description: A variety of products are produced including electrical transformers and switchgear, motors, generators, relays, and industrial controls; communications equipment for radio and TV stations and systems; electronic components and accessories including semiconductors; printed board circuits; electromedical and electrotherapeutic apparatus; and electrical instrumentation. Manufacturing processes include electroplating, machining, fabricating, etching, sawing, grinding, welding, and parts cleaning. Materials used include metals, ceramics, quartz, silicon, inorganic oxides, acids, alkaline solutions, arsenides, phosphides, cyanides, oils, fuels, solvents, and other chemicals.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 16 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Pollutant generating activities/sources include bulk storage of raw materials, by-products or finished products; loading and unloading of liquid materials from truck or rail; temporary storage of waste oil and solvents from cleaning manufacturing equipment; used

equipment temporarily stored on site that could drip oil and residual process materials; maintenance and repair of vehicles and equipment; and temporary storage of Dangerous Wastes.

Waste liquids which are sometimes stored outside include spent acetone and solvents, ferric chloride solutions, soldering fluxes mixed with thinner or alcohol, spent acids, and oily waste. Several of these liquid wastes contain chlorinated hydrocarbons, ammonium salts, and metals such as chromium, copper, lead, silver, zinc, nickel, and tin. Waste solids include soiled rags and sanding materials.

Wastewater consists of solutions and rinses from electroplating operations, and the wastewaters from cleaning operations. Water may also be used to cool saws and grinding machines. Sludges are produced by the wastewater treatment process. Potential pollutants include TSS, oil and grease, organics, pH, BOD, COD, Total Kjeldahl Nitrogen, Nitrate and Nitrite Nitrogen, copper, zinc, lead, and silver.

#### EQUIPMENT REPAIR - SIC: 7353, 7600

Description: This group includes several businesses that specialize in repairing different equipment including communications equipment, radio, TV, household appliances, and refrigeration systems. Also included are businesses that rent or lease heavy construction equipment as miscellaneous repair and maintenance may occur on site.

Existing Coverages: None of the SIC codes in this group are categorically required by the permit to obtain coverage. However, Ecology does require coverage for facilities determined to be significant contributors of pollutants as described in S1.E. of the permit, Coverage for Significant Contributors of Pollutants. As of November 28, 2001, Ecology had issued coverage to one facility under this group.

Sources of Potential Pollutants: Potential pollutant sources include storage and handling of fuels, waste oils and solvents, and loading/unloading areas. Potential pollutants include oil and grease, low/high pH, and suspended solids.

#### FLEET VEHICLE YARDS - SIC: 4100, 4210, 4230, 7381/2, 7510

Description: Includes all businesses which own, operate and maintain or repair large vehicle fleets, including cars, buses, trucks and taxis, as well as the renting or leasing of cars, trucks, and trailers.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 152 facilities with primary activities falling under this group.

Sources of Potential Pollutants:

1. Spills/leaks of fuels, used oils, oil filters, antifreeze, solvents, brake fluid, and batteries, sulfuric acid, battery acid sludge, and leaching from empty contaminated containers and soiled rags.
2. Leaking underground storage tanks that can cause ground water contamination and is a safety hazard.
3. Dirt, oils and greases from outside steam cleaning and vehicle washing.
4. Dripping of liquids from parked vehicles.

5. Solid and liquid wastes (noted above) that are not properly stored while awaiting disposal or recycling.
6. Loading and unloading area.

#### FOOD PRODUCTS - SIC: 2000

Description: Businesses in this category include meat packing plants, poultry slaughtering and processing, sausage and prepared meats, dairy products, preserved fruits and vegetables, flour, bakery products, sugar and confectioneries, vegetable and animal oils, beverages, canned, frozen or fresh fish, pasta products, snack foods, and manufactured ice. Food processing typically occurs inside buildings. Exceptions are meat packing plants where live animals may be kept outside, and fruit and vegetable plants where the raw material may be temporarily stored outside. Meat production facilities include stockyards, slaughtering, cutting and deboning, meat processing, rendering, and materials recovery. Dairy production facilities include receiving stations, clarification, separation, and pasteurization followed by culturing, churning, pressing, curing, blending, condensing, sweetening, drying, milling, and packaging. Canned frozen and preserved fruits and vegetables are typically produced by washing, cutting, blanching, and cooking followed by drying, dehydrating, and freezing.

Grain mill products are processed during washing, milling, debranning, heat treatment, screening, shaping, and vitamin and mineral supplementing. Bakery products processing includes mixing, shaping, of dough, cooling, and decorating. Operations at an edible oil manufacturer include refining, bleaching, hydrogenation, fractionation, emulsification, deodorization, filtration, and blending. Beverage production includes brewing, distilling, fermentation, blending, and packaging. Wine processors often crush grapes outside the process building and/or store equipment outside when not in use. Some wine producers use juice from grapes crushed elsewhere. Some vegetable and fruit processing plants use caustic solutions.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 74 facilities with primary activities falling under SIC 2000.

Sources of Potential Pollutants: The following are potential stormwater pollutant causing activities/sources: loading/unloading of materials, equipment/vehicle maintenance, liquid storage in tanks and drums, air emissions (ovens, vents), solid wastes handling and storage, wastewater treatment, pest control, animal containment and transit, and vegetable storage. Materials exposed to stormwater include acids, ammonia, activated carbon, bleach, blood, bone meal, brewing residuals, caustic soda, chlorine, coke oven tar, detergents, eggs, feathers, feed, ferric chloride, fruits, vegetables, coffee beans, gel bone, grain, hides, lard, manure, milk, salts, skim powder, starch, sugar, tallow, ethyl alcohol, oils, fats, whey, yeast, and wastes. The following are the pollutants typically expected from this industry segment: BOD, TSS, Oil and Grease, pH, Kjeldahl Nitrogen, copper, manganese, fecal coliform, and pesticides.

#### GLASS PRODUCTS - SIC: 3210, 3220, 3230

Description: The glass form produced may be flat or window glass, safety glass, or container glass, tubing, glass wool, or fibers. The raw materials are sand mixed with a variety of oxides such as aluminum, antimony, arsenic, lead, copper, cobalt oxide, and barium. The raw materials are mixed and heated in a furnace. Processes that vary with the intended product, shape the resulting molten material. The cooled glass may be edged, ground, polished, annealed and/or heat-treated to produce the final product. Air emissions from the manufacturing buildings are scrubbed to remove particulates.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 8 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Raw materials are generally stored in silos except for crushed recycled glass and materials washed off recycled glass. Contamination of stormwater and/or ground water can be caused by raw materials lost during unloading operations, errant flue dust, equipment/vehicle maintenance and engine fluids from mobile lifting equipment that is stored outside. The maintenance of the manufacturing equipment will produce waste lubricants and cleaning solvents. The flue dust is likely to contain heavy metals such as arsenic, cadmium, chromium, mercury, and lead. Potential pollutants include suspended solids, oil and grease, high/low pH, and heavy metals such as arsenic, cadmium, chromium, mercury, and lead.

#### HAZARDOUS WASTE SITES

Description: Hazardous waste treatment, storage, and disposal facilities fall under this group. It includes those sites that are operating under interim status or a permit under Subtitle C of RCRA. Hazardous wastes are generally stored in containers and tanks, which are enclosed by a bermed area to prevent any releases to the environment from the storage units. Hazardous waste disposal units include landfills, surface impoundments, waste piles, and land treatment units. The processes for treating hazardous wastes can be divided into two major categories based on whether the waste is organic or inorganic in nature. Organic wastes are treated by destructive technologies, like incineration, whereas inorganic wastes are treated using fixation technologies, like stabilization, in which the hazardous constituents are immobilized in the residual matrix. Residuals from fixation processes are usually land-disposed where the stabilized constituents are much less likely to leach into the environment.

Existing Coverages: As of November 28, 2001, there were no facilities under this group with permit coverage.

Sources of Potential Pollutants: Pollutants in stormwater discharges from hazardous waste treatment, storage, and disposal facilities may include hazardous wastes and/or their constituents if spills or leaks are not properly contained or cleaned up. 40 CFR Part 261 Subpart D contains the lists of hazardous wastes, and Appendix VII to Part 261 is a list of the hazardous constituents for which each of these wastes is listed. The EPA has reviewed this industrial group and established effluent limits based on available technology for pollution prevention and treatment of wastewater. Contaminated stormwater is regulated under these effluent limits and includes the following parameters: BOD<sub>5</sub>, TSS, Ammonia,  $\alpha$ -Terpineol, Aniline, Benzoic acid, Naphthalene, p-Cresol, Phenol, Pyridine, Arsenic, Chromium, Zinc, and pH.

#### INDUSTRIAL MACHINERY AND EQUIPMENT, TRUCKS AND TRAILERS, AIRCRAFT, AEROSPACE, AND RAILROAD - SIC: 3500, 3713/14, 3720, 3740, 3760, 3800

Description: This category includes the manufacture of a variety of equipment including engines and turbines, farm and garden equipment, construction and mining machinery, metal working machinery, pumps, computers and office equipment, automatic vending machines, refrigeration and heating equipment, and equipment for the manufacturing industries. This group also includes many small machine shops, and the manufacturing of trucks, trailers and parts, airplanes and parts, missiles, spacecraft, and railroad equipment and instruments.

Manufacturing processes include various forms of metal working and finishing, such as electroplating, anodizing, chemical conversion coating, etching, chemical milling, cleaning, machining, grinding, polishing, sand blasting, laminating, hot dip coating, descaling, degreasing, paint stripping, painting, and the production of plastic and fiberglass parts. Raw materials include

ferrous and non-ferrous metals, such as aluminum, copper, iron, steel, and their alloys, paints, solvents, acids, alkalis, fuels, lubricating and cutting oils, and plastics.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 71 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Potential pollutant sources include fuel islands, maintenance shops, loading/unloading of materials, and outside storage of gasoline, diesel, cleaning fluids, equipment, solvents, paints, wastes, detergents, acids, other chemicals, oils, metals, and scrap materials. Air emissions from stacks and ventilation systems are potential areas for exposure of materials to rain water.

## LANDFILLS

Description: This group includes landfills, land application sites, and open dumps that receive or have received industrial waste. Since operation of an open dump is prohibited under RCRA Section 4004, inclusion of this activity is moot. Subtitle D of the Resource Conservation and Recovery Act (RCRA), 40 CFR Part 257, defines landfills as areas of land or excavation in which wastes are placed for permanent disposal, and that are not land application units, surface impoundments, injection wells, or waste piles. Included in this definition are municipal solid waste landfills and industrial solid nonhazardous waste landfills. Land application sites are defined as facilities at which wastes are applied onto or incorporated into the soil surface for the purpose of beneficial use or waste treatment and disposal.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 36 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Extensive land disturbance activities often associated with landfill operations expose soil to stormwater and can easily result in contaminating stormwater with suspended solids. Application of fertilizers, pesticides, and herbicides at the site can result in stormwater contamination. Exposure of waste at the open face of the landfill, residual from leachate leaks, leaks from machinery and vehicles provide additional opportunities to contaminate stormwater. The EPA has reviewed this industrial group and established effluent limits based on available technology for pollution prevention and treatment of wastewater. Contaminated stormwater is regulated under these effluent limits and includes the following parameters: BOD<sub>5</sub>, TSS, Ammonia,  $\alpha$ -Terpineol, Benzoic acid,  $p$ -Cresol, Phenol, Zinc, and pH.

## METAL PRODUCTS - SIC: 2514, 2522, 2542, 3312, 3314-17, 3320, 3330, 3340, 3350, 3360, 3390, 3400, 3590

Description: This group includes mills that produce basic metals and primary products, as well as foundries, electroplaters, and fabricators of final metal products. Basic metal production includes steel, copper, and aluminum. Mills that transform metal billets, either ferrous or nonferrous such as aluminum, to primary metal products are included. Primary metal forms include sheets, flat bar, building components such as columns, beams and concrete reinforcing bar, and large pipe.

Steel mills in the Pacific Northwest use recycled metal and electric furnaces. The molten steel is cast into billets or ingots that may be reformed on site or taken to rolling mills that produce primary products. As iron and steel billets may sit outside before reforming, surface treatment to remove scale may occur prior to reforming. Foundries pour or inject molten metal into a mold to produce a shape that cannot be readily formed by other processes. The metal is first melted in a furnace. The mold is made of sand or metal die blocks that are locked together to make a complete cavity. The molten metal is ladled in and the mold is cooled. The rough product is

finished by quenching, cleaning and chemical treatment. Quenching involves immersion in a plain water bath or water with an additive.

Businesses that fabricate metal products from metal stock provide a wide range of products. The raw stock is manipulated in a variety of ways including machining of various types, grinding, heating, shearing, deformation, cutting and welding, soldering, sand blasting, brazing, and laminating. Fabricators may first clean the metal by sand blasting, descaling, or solvent degreasing. Final finishing may involve electroplating, painting, or direct plating by fusing or vacuum metalizing. Raw materials, in particular recycled metal, are stored outside prior to use, as are billets before reforming. The descaling process may use salt baths, sodium hydroxide, or acid (pickling).

Primary products often receive a surface coating treatment. Prior to the coating the product surface may be prepared by acid pickling to remove scale or alkaline cleaning to remove oils and greases. The two major classes of metallic coating operations are hot and cold coating. Zinc, tin and aluminum coatings are applied in molten metal baths. Tin and chromium are usually applied electrolytically from plating solutions.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 146 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Potential pollutant generating sources include outside storage of chemicals, metal feedstock, byproducts (fluxes), finished products, fuels, lubricants, waste oil, sludge, waste solvents, Dangerous Wastes, piles of coal, coke, dusts, fly ash, baghouse waste, slag, dross, sludges, sand refractory rubble, and machining waste; unloading of chemical feedstock and loading of waste liquids such as spent pickle liquor by truck or rail; material handling equipment such as cranes, conveyors, trucks, and forklifts; particulate emissions from scrubbers, baghouses or electrostatic precipitators; fugitive emissions; maintenance shops; erosion of soil from plant yards; and floor, sink, and process wastewater drains.

Based on EPA's multi-sector industrial stormwater permit/fact sheet the following are ranges of mean composite/grab pollutant concentrations from this industrial group (values are in mg/L except pH): BOD at 34.1/32.2; COD at 109.8/221.3; NO<sub>2</sub>+NO<sub>3</sub> N at 1.38/1.17; TKN at 3.05/3.56; Oil and grease at 8.88 (grab); pH at 2.6-10.3 (range-grab); total phosphorus at .52/1.25; TSS at 162/368; copper at 2.28/3.53; lead at .19/.79; zinc at 6.60/8.90; aluminum at 2.6/4.8; iron at 32.30/45.97; cadmium at 0.015/0.074; chromium at 2.2/5.053; nickel at 0.75/0.7; manganese at .59/.68; ammonia at .55/.85; and pyrene at .01/.06.

#### MINING ACTIVITIES – SIC: 1000, 1200, 1300, 1400

Description: This group includes metal mining activities, coal mining activities (inactive sites only), oil and gas extraction and refining, and mineral mining activities not covered under the Sand and Gravel General Permit.

SIC code 1000 includes establishments primarily engaged in mining, developing mines, or exploring for metallic minerals (ores). This group also includes all ore dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. Common activities at these mills include: crushing, grinding, and separation by gravity concentration, magnetic separation, electrostatic separation, flotation, or leaching.



SIC code 1200 only includes stormwater discharges associated with industrial activities from inactive<sup>1</sup> coal mines and from access roads, haul roads, and rail lines at active coal mines. The following types of operations are included: bituminous coal and lignite surface mining (SIC 1221); bituminous coal underground mining (SIC 1222); anthracite mining (SIC 1231); and coal mining services (SIC 1241).

SIC 1300 only includes those oil and gas facilities that discharge 'contaminated' stormwater. For oil and gas facilities, contamination means that there has been a release of a Reportable Quantity (RQ) of oil or hazardous substances in storm water since November 16, 1987. Industrial activities include oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge stormwater contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations.

SIC 1400 includes stormwater discharges associated with industrial activities from active and inactive mineral mining and processing facilities. Mineral mining and processing facilities (SIC 1400) that may be covered under the industrial stormwater general permit include the following types of operations: Potash, Soda, and Borate Minerals (SIC Code 1474); Phosphate Rock (SIC Code 1475); and Chemical and Fertilizer Mineral Mining (SIC Code 1479). The following are covered under the Sand and Gravel General Permit and typically will not be eligible for coverage under the industrial stormwater general permit: Dimension Stone (SIC Code 1411); Crushed and Broken Limestone (SIC Code 1422); Crushed and Broken Granite (SIC Code 1423); Crushed and Broken Stone (SIC Code 1429); Construction Sand and Gravel (SIC Code 1442); Industrial Sand and Gravel (SIC Code 1446); Kaolin and Ball Clay (SIC Code 1455); Clay, Ceramic, and Refractory Minerals (SIC Code 1459); and Miscellaneous Nonmetallic Minerals, Except Fuels (SIC Code 1499).

Existing Coverages: Most industrial activities that fall under SIC 1400 are covered under the sand and gravel general permit and are not eligible for coverage under the industrial stormwater general permit. As of November 28, 2001, Ecology had issued coverage to three facilities with primary activities falling under SIC 1000, one facility under SIC 1200, no facilities under SIC 1300, and two facilities under SIC 1400.

Sources of Potential Pollutants: These activities often include disturbing the soil surface and exposing new material to stormwater. This can result in stormwater discharges contaminated with suspended solids, dissolved solids, altered pH, and increased turbidity. Heavy equipment, fueling and maintenance is typically associated with these activities and can result in stormwater contamination from petroleum products.

#### PAPER AND PULP - SIC: 2610, 2620, 2630

Description: Large industrial complexes in which pulp and/or paper, and/or paperboard are produced. Products also include newsprint, bleached paper, glassine, tissue paper, vegetable parchment, and industrial papers. Raw materials include; wood logs, chips, wastepaper, jute, hemp, rags, cotton linters, bagasse, and esparto. The chips for pulping may be produced on-site from logs, and/or imported.

The following manufacturing processes are typically used: raw material preparation, pulping, bleaching, and papermaking. All of these operations use a wide variety of chemicals including

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<sup>1</sup>Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator.

caustic soda, sodium and ammonium sulfites, chlorine, titanium oxide, starches, solvents, adhesives, biocides, hydraulic oils, lubricants, dyes, and many chemical additives.

Existing Coverages: Typically pulp and paper mills have individual permits that include stormwater discharges as well as process wastewater. As of November 28, 2001, Ecology had issued coverage to one facility with primary activities falling under SIC 2631 and two facilities with primary activities under SIC 2611.

Sources of Potential Pollutants: The large process equipment used for pulping is not enclosed. Thus, precipitation falling over these areas may become contaminated. Maintenance of the process equipment produces waste products similar to that produced from vehicle and mobile equipment maintenance. Logs may be stored, debarked and chipped on site. Large quantities of chips are stored outside. Although this can be a source of pollution, the volume of stormwater flow is relatively small because the chip pile retains the majority of the precipitation. Mobile equipment such as forklifts, log stackers, and chip dozers are sources of leaks/spills of hydraulic fluids. Vehicles and equipment are fueled and maintained on-site.

#### PAPER PRODUCTS - SIC: 2650, 2670

Description: Included are businesses that take paper stock and produce basic paper products such as cardboard boxes and other containers, and stationery products such as envelopes and bond paper. Wood chips, pulp, and paper can be used as feedstock.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 19 facilities with primary activities falling under SIC 2650 or 2670.

Sources of Potential Pollutants: The following are potential pollutant sources:

1. Outside loading/unloading of solid and liquid materials.
2. Outside storage and handling of dangerous wastes, and other liquid and solid materials.
3. Maintenance and fueling activities.
4. Outside processing activities comparable to Pulp and Paper processing in preceding section.

#### PETROLEUM PRODUCTS - SIC: 2900

Description: The petroleum refining industry manufactures gasoline, kerosene, distillate and residual oils, lubricants and related products from crude petroleum, and asphalt paving and roofing materials. Although petroleum is the primary raw material, petroleum refineries also use other materials such as natural gas, benzene, toluene, chemical catalysts, caustic soda, and sulfuric acid. Wastes may include filter clays, spent catalysts, sludges, and oily water.

Asphalt paving products consist of sand, gravel and petroleum-based asphalt that serves as the binder. Raw materials include stockpiles of sand and gravel and asphalt emulsions stored in aboveground tanks.

Existing Coverages: Asphalt paving products, SIC 2951, are typically included under the sand and gravel general permit and not under the industrial stormwater general permit. As of November 28, 2001, Ecology had issued coverage to 8 facilities with primary activities falling under SIC 2900.

Sources of Potential Pollutants:

- Outside processing such as distillation, fractionation, catalytic cracking, solvent extraction, coking, desulfuring, reforming, and desalting.
- Petrochemical and fuel storage and handling.
- Outside liquid chemical piping and tankage.
- Mobile liquid handling equipment such as tank trucks, forklifts, etc.
- Maintenance and parking of trucks and other equipment.
- Waste Piles, and handling and storage of asphalt emulsions, cleaning chemicals, and solvents.
- Waste treatment and conveyance systems.

The following are potential pollutants at oil refineries: oil and grease, BOD5, COD, TOC, phenolic compounds, PAH, ammonia nitrogen, TKN, sulfides, TSS, low and high pH, and chromium (total and hexavalent).

#### PRINTING - SIC: 2700

**Description:** This industrial category includes the production of newspapers, periodicals, commercial printing materials and businesses that do their own printing and those that perform services for the printing industry, for example bookbinding. Processes include typesetting, engraving, photoengraving, and electrotyping.

**Existing Coverages:** As of November 28, 2001, Ecology had issued coverage to three facilities with primary activities falling under SIC 2700, Printing.

**Sources of Potential Pollutants:** Various materials used in modifying the paper stock include inorganic and organic acids, resins, solvents, polyester film, developers, alcohol, vinyl lacquer, dyes, acetates, and polymers. Waste products may include waste inks and ink sludge, resins, photographic chemicals, solvents, acid and alkaline solutions, chlorides, chromium, zinc, lead, spent formaldehyde, silver, plasticizers, and used lubricating oils. As the printing operations occur indoors, the only likely points of potential contact with stormwater are the outside temporary storage of waste materials, offloading of chemicals at external unloading bays, and vehicle/equipment repair and maintenance. Pollutants of concern include TSS, pH, heavy metals, oil and grease, and COD.

#### PROFESSIONAL SERVICES - SIC: 6000, 7000 AND 8000, 8060, 8070 NOT LISTED ELSEWHERE

**Description:** This service businesses group includes theaters, hotels/motels, finance, banking, hospitals, medical/dental laboratories, medical services, nursing homes, schools/universities, and legal, financial and engineering services. Stormwater from parking lots will contain undesirable concentrations of oil and grease, suspended particulates, and metals such as lead, cadmium and zinc. Dangerous wastes might be generated at hospitals, nursing homes and other medical services.

**Existing Coverages:** None of the SIC codes in this group are categorically required by the permit to obtain coverage. However, Ecology does require coverage for facilities determined to be significant contributors of pollutants as described in S1.E. of the permit, Coverage for Significant Contributors of Pollutants. As of November 28, 2001, Ecology had issued coverage to two facilities from this group.

Sources of Potential Pollutants: The primary concern is runoff from high use parking areas, maintenance shops, and storage and handling of dangerous wastes.

#### RAILROADS - SIC: 4011, 4013

Description: Railroad activities are spread over a large geographic area: along railroad lines, in switching yards, and in maintenance yards. Railroad activity occurs on both property owned or leased by the railroad and at the loading or unloading facilities of its customers. Employing BMPs at commercial or public loading and unloading areas is the responsibility of the particular property owner.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 17 facilities with primary activities falling under SIC 4011 or 4013.

Sources of Potential Pollutants: The following are potential sources of pollutants: dripping of vehicle fluids onto the road bed, leaching of wood preservatives from the railroad ties, human waste disposal, litter, locomotive sanding areas, locomotive/railcar/equipment cleaning areas, fueling areas, outside material storage areas, the erosion and loss of soil particles from the bed, and herbicides used for vegetation management.

Maintenance activities include maintenance shops for vehicles and equipment, track maintenance, and ditch cleaning. In addition to the railroad stock, the maintenance shops service highway vehicles and other types of equipment. Waste materials can include waste oil, solvents, degreasers, antifreeze, radiator flush, acid solutions, brake fluids, soiled rags, oil filters, sulfuric acid and battery sludge, and machine chips with residual machining oil and any toxic fluids or solids lost during transit. The following are potential pollutants at railyards: Oil and grease, TSS, BOD, organics, pesticides, and heavy metals.

#### RETAIL/WHOLESALE VEHICLE AND EQUIPMENT DEALERS - SIC: 5010, 5080, AND 5500, 7510 EXCLUDING FUELING STATIONS (5540)

Description: This group includes all retail and wholesale businesses that sell, rent, or lease cars, trucks, boats, trailers, mobile homes, motorcycles and recreational vehicles. It includes both new and used vehicle dealers. It also includes sellers of heavy equipment for construction, farming, and industry. With the exception of motorcycle dealers, these businesses have large parking lots. Most retail dealers that sell new vehicles and large equipment also provide repair and maintenance services.

Existing Coverages: None of the SIC codes in this group are categorically required by the permit to obtain coverage. However, Ecology does require coverage for facilities determined to be significant contributors of pollutants as described in S1.E. of the permit, Coverage for Significant Contributors of Pollutants. As of November 28, 2001, Ecology had issued coverage to one facility from this group.

Sources of Potential Pollutants: Oil and other materials that have dripped from parked vehicles can contaminate stormwater at high-use parking areas. Vehicles are washed regularly generating vehicle grime and detergent pollutants. The storm or washwater runoff will contain oils and various organics, metals, and phosphorus. Repair and maintenance services generate a variety of waste liquids and solids including used oils and engine fluids, solvents, waste paint, soiled rags, and dirty used engine parts. Many of these materials are Dangerous Wastes.

#### RETAIL/WHOLESALE NURSERIES AND BUILDING MATERIALS - SIC: 5030, 5198, 5210, 5230, AND 5260

Description: These businesses are placed in a separate group because they are likely to store much of their merchandise outside of the main building. They include nurseries, and businesses that sell building and construction materials and equipment, paint (5198, 5230) and hardware.

Existing Coverages: None of the SIC codes in this group are categorically required by the permit to obtain coverage. However, Ecology does require coverage for facilities determined to be significant contributors of pollutants, as described in S1.E. of the permit, Coverage for Significant Contributors of Pollutants. As of November 28, 2001, Ecology had issued coverage to 6 facilities from this group.

Sources of Potential Pollutants: Some businesses may have small fueling capabilities for forklifts and may also maintain and repair their vehicles and equipment. Some businesses may have unpaved areas, with the potential to contaminate stormwater by leaching of nutrients, pesticides, and herbicides. Businesses in this group surveyed in the Puget Sound area for Dangerous Wastes were found to produce waste solvents, paints and used oil. Storm runoff from exposed storage areas can contain suspended solids, and oil and grease from vehicles and forklifts and high-use customer parking lots, and other pollutants. Runoff from nurseries may contain nutrients, pesticides and/or herbicides.

#### RUBBER AND PLASTIC PRODUCTS - SIC: 3000

Description: Although different in basic feedstock and processes used, businesses that produce rubber, fiberglass and plastic products belong to the same SIC group. Products in this category include rubber tires, hoses, belts, gaskets, seals; and plastic sheet, film, tubes, pipes, bottles, cups, ice chests, packaging materials, and plumbing fixtures. The rubber and plastics industries use a variety of processes ranging from polymerization to extrusion using natural or synthetic raw materials. These industries use natural or synthetic rubber, plastics components, pigments, adhesives, resins, acids, caustic soda, zinc, paints, fillers, and curing agents.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 45 facilities with primary activities falling under SIC 3000.

Sources of Potential Pollutants: Pollutant generating sources/activities include storage of liquids, other raw materials or by-products, scrap materials, oils, solvents, inks and paints; unloading of liquid materials from trucks or rail cars; washing of equipment; waste oil and solvents produced by cleaning manufacturing equipment; used equipment that could drip oil and residual process materials; and maintenance shops.

Based on data in EPA's multi-sector permit fact sheet the following are mean pollutant concentrations in mg/L, except for pH (unitless) and 1,1,1 trichloroethane, methylene chloride, toluene, zinc, oil/grease which are min.-max. grab sample values: BOD at 11.21-13.92, COD at 72.08-100.0, NO<sub>3</sub> + NO<sub>2</sub> Nitrogen at 86-1.26, TKN at 1.55-2.34, total phosphorus at .34-.41, TSS at 119.32-188.55, pH range of 2.56-10.1, trichloroethane at 0.00-0.38, methylene chloride at 0.00-13.0, toluene at 0.00-3.8, zinc at .011-7.60 and oil and grease at 0.0-91.0. These data may be helpful in characterizing potential stormwater pollutants.

#### SHIP AND BOAT BUILDING AND REPAIR YARDS - SIC: 3730

Description: Businesses that build or repair ships and boats. Typical activities include hull scraping, sandblasting, finishing, metal fabrication, electrical repairs, engine overhaul, and

welding, fiberglass repairs, hydroblasting and steam cleaning. Most of these facilities will be covered under the Boatyard General Permit.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 20 facilities listing SIC 3731 or 3732 as their primary activity. Although most facilities are under the boatyard general permit, some with individual permits for process water or whose industrial activities are completely indoors, have coverage for stormwater discharges under the industrial stormwater general permit.

Sources of Potential Pollutants: Outside boatyard activities that can be sources of stormwater pollution include pressure washing, surface preparation, paint removal, sanding, painting, engine/vessel maintenance and repairs, and material handling and storage.

Secondary sources of stormwater contaminants are cooling water, pump testing, gray water, sanitary waste, washing down the work area, and engine bilge water. Engine room bilge water and oily wastes are typically collected and disposed of through a licensed contracted disposal company. Two prime sources of copper are leaching of copper from anti-fouling paint and wastes from hull maintenance. Wastes generated by boatyard activities include spent abrasive grits, spent solvent, spent oils, fuel, ethylene glycol, washwater, paint overspray, various cleaners/detergents and anti-corrosive compounds, paint chips, scrap metal, welding rods, wood, plastic, resins, glass fibers, dust, and miscellaneous trash such as paper and glass.

Ecology, local shipyards, and METRO have sampled pressure wash wastewater. The effluent quality has been variable and frequently exceeds water quality criteria for copper, lead, tin, and zinc. From monitoring results received to date, metal concentrations typically range from 5 to 10 mg/L, but have gone as high as 190 mg/L copper with an average 55 mg/L copper.

#### STEAM ELECTRIC POWER GENERATING FACILITIES

Description: The steam electric power generating category includes facilities which are coal, oil, gas, or nuclear fired. Heat captured co-generation facilities are not covered under the definition of stormwater discharge associated with industrial activity, however, dual fuel co-generation facilities are included in the definition. The production of electrical energy always involves the conversion of some other form of energy. The two most important sources of energy which are converted to steam electric energy are the chemical energy of fossil fuels and the atomic energy of nuclear fuels. Current uses of fossil fuels are based on a combustion process, followed by steam generation to convert the heat first into mechanical energy and then to convert the mechanical energy into electrical energy. Nuclear power plants utilize a cycle similar to that used in fossil fueled power plants except that the source of heat is atomic interactions rather than the combustion of fossil fuel. Common industrial activities at steam electric power generating facilities include the unloading, transport, and storage of raw materials, and the disposal of waste materials.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 4 facilities with primary activities falling under this group.

Sources of Potential Pollutants: Industrial activities that may result in contamination of stormwater include: discharges from industrial plant yards; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished materials; and areas where industrial

activity has taken place in the past and significant materials remain and are exposed to stormwater. Potential pollutants include: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; fertilizers; pesticides; and waste products such as ashes, slag, and sludge. Significant materials commonly found at steam electric power generating facilities include: coal; diesel fuel; and waste materials. The primary and largest potential source of storm water pollutants from fossil-fueled steam electric generating facilities is ash refuse piles. Few if any significant materials are exposed to storm water at nuclear powered steam electric facilities. The materials that are exposed to stormwater are office wastes and ground maintenance equipment and tools.

#### VEHICLE RECYCLERS AND SCRAP YARDS - SIC: 5093, 5015

Description: SIC 5093 includes establishments engaged in assembling, breaking up, sorting and the wholesale distribution of scrap and recyclable waste materials including bag, bottle and box wastes, fur cuttings, iron and steel scrap, metal and nonferrous metal scrap, oil, plastics, rags, rubber, textiles, waste paper, aluminum and tin cans, and rag wastes. SIC 5015 includes facilities engaged in the dismantling of used motor vehicles for the purpose of selling parts.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 55 facilities listing SIC 5093 as their primary activity and 59 facilities listing SIC 5015 as their primary activity.

Sources of Potential Pollutants: Potential sources of pollutants at vehicle recycler facilities include engines, transmissions, radiators, batteries, brakes, power steering units, and differential gears which contain fluids. Scrap yards provide additional sources of pollutants depending on the materials recycled. Dismantling, processing, and storage all have potential to contaminate stormwater. Outside storage of materials is likely to result in contamination of stormwater. Potential pollutants include: a wide variety of petroleum products (e.g. oil and grease, gasoline, hydraulic fluid, solvents), total suspended solids, turbidity, biological oxygen demand, nutrients, metals, anti-freeze, and acids/bases.

#### WAREHOUSES AND MINI-WAREHOUSES - SIC: 4220

Description: Businesses that store goods in buildings and other structures.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 40 facilities listing 4220 as their primary SIC.

Sources of Potential Pollutants: The following are potential pollutant sources from warehousing operations: Loading and unloading areas, outside storage of materials and equipment, fueling and maintenance areas. Potential pollutants include oil and grease and TSS.

#### WOOD - SIC 2410, 2420, 2450, 2434, 2490, 2511/12, 2517, 2519, 2521, 2541

Description: This group includes sawmills, log storage, and all businesses that make wood products using cut wood, with the exception of wood treatment businesses. Included in this group are log yards, chip/bark piles, planing mills, millworks, and businesses that make wooden containers and prefab building components, mobile homes, and glued-wood products like laminated beams, as well as office and home furniture, partitions, and cabinets. All businesses employ cutting equipment whose by-products are chips and sawdust. Finishing is conducted in many operations.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 214 facilities falling under SIC 2400, lumber and wood products. This is a diverse group but the majority of permit coverages are for log yards (SIC 2411), sawmills and planing mills (SIC 2421), and millwork, veneer, plywood, and structural wood (SIC 2430).

Sources of Potential Pollutants: Businesses may have operations that use paints, solvents, wax emulsions, melamine formaldehyde and other thermosetting resins, and produce waste paints and paint thinners, turpentine, shellac, varnishes and other waste liquids. Outside storage, trucking, and handling of these materials can also be pollutant sources.

Potential pollutants reported in EPA's draft multi-sector permit/fact sheet (U.S. EPA, 1995) include the following (all are grab/composite mean values, in mg/L, except for oil and grease and pH): BOD at 39.6/45.4, COD at 297.6/242.5, NO<sub>3</sub> + NO<sub>2</sub>-N at 0.95/0.75, TKN at 2.57/2.32, Tot. Phosphorus at 23.91/6.29; TSS at 1108/575, arsenic at .025/.028, copper at .047/.041, total phenols at .02/.007, oil and grease at 15.2, and pH at 3.6. These data may help in characterizing the potential stormwater pollutants at the facility.

#### WOOD TREATMENT - SIC: 2491

Not eligible for coverage under the industrial stormwater general permit. Ecology has determined that the industrial stormwater general permit is not appropriate for this industrial group and authorization for stormwater discharge must be by an individual permit.

#### OTHER MANUFACTURING BUSINESSES - SIC: 2200, 2300, 2873/74, 3100, 3200, 3250-69, 3280, 3290

Description: Includes manufacturing of textiles and apparel, agricultural fertilizers, leather products, clay products such as bricks, pottery, bathroom fixtures; and nonmetallic mineral products.

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 16 facilities within this category.

Sources of Potential Pollutants: Pollutant generating sources at facilities in these categories include fueling, loading & unloading, material storage and handling (especially fertilizers), and vehicle and equipment cleaning and maintenance. Potential pollutants include TSS, BOD, COD, Oil and Grease, heavy metals and fertilizer components including nitrates, nitrites, ammonia nitrogen, Kjeldahl Nitrogen, and phosphorous compounds.

#### OTHER TRANSPORTATION AND COMMUNICATION - SIC: 4700-4900

Description: This group includes travel agencies, communication services such as TV and radio stations, cable companies, and electric and gas services. It does not include commercial railroads, airplane transport services, airlines, pipeline companies, and airfields. None of these SIC codes are categorically included in the industrial stormwater general permit. However, SIC 4785, National Guard, have been covered where their industrial activities are similar to other covered activities (e.g. transportation facilities with vehicle maintenance).

Existing Coverages: As of November 28, 2001, Ecology had issued coverage to 8 facilities in this category.

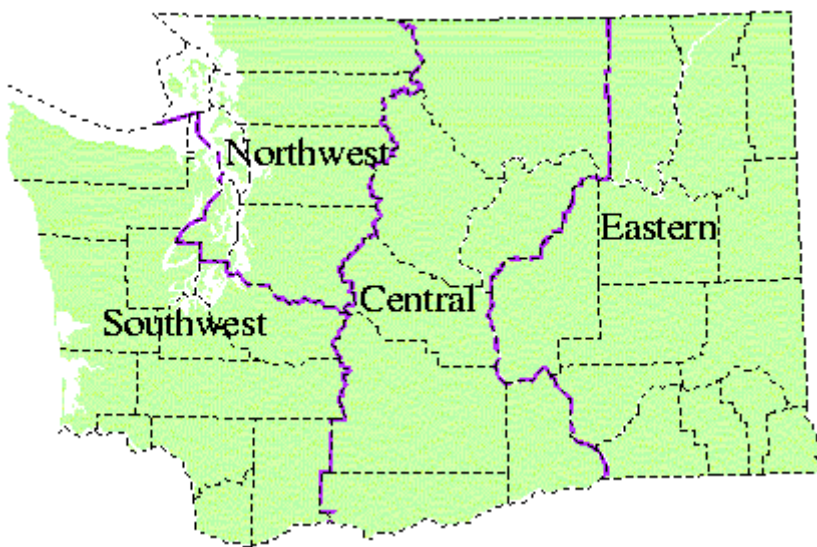
Sources of Potential Pollutants: Gas and electric services are likely to own vehicles that are washed, fueled and maintained on site. Communication service companies can generate used oils and Dangerous Wastes. The following are the potential pollutants: Oil and grease, TSS, BOD, and heavy metals.



## *PERMIT STATUS AND SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

The previous stormwater discharge permit for industrial activities became effective on November 18, 2000 and is virtually identical to the 1995-2000 permit. The permit requires new Permittees to develop and implement a stormwater pollution prevention plan (SWPPP) before beginning operation. All Permittees are required to update their SWPPP as necessary and follow the practices and procedures identified in the SWPPP. Permittees are not required to submit the SWPPP to Ecology unless they receive a specific request to do so. Permittees are required to manage stormwater through best management practices (BMPs). BMPs must be sufficient to assure that the discharge of stormwater does not violate water quality standards. Facilities that are out of compliance are expected to adopt BMPs to achieve compliance. The permit does require visual monitoring of stormwater discharges and the BMPs to assure that stormwater management is successful. It does not require the Permittee to report their visual monitoring to Ecology. It does not require Permittees to conduct stormwater sampling and analysis.

Because this is a general permit, permit status and compliance refers to how well individual facilities with permit coverage are performing. Ecology issues permit coverage to a facility through the headquarters' office in Lacey. Once issued, however, Ecology's regional offices have the responsibility to manage permit coverage for facilities located within their region. The regional offices respond to complaints about facilities and requests by facilities for technical assistance. They conduct inspections to determine permit compliance and require corrective measures as necessary. The regional offices are responsible for taking enforcement actions for noncompliance. Regional priorities and staffing considerations determine the level of response that can be applied to managing the permitted facilities within their region. As of December 26, 2001, Ecology's Northwest Regional Office had 628 Permittees with coverage under the industrial stormwater general permit, the Southwest Regional Office had 514 Permittees, the Central Regional Office had 62 Permittees, and the Eastern Regional Office had 59 Permittees.



Site visits are a very important part of assuring compliance with permit requirements. Ecology's regional offices are able to inspect between 15% to 30% of the industrial facilities each year. Facilities that are failing to comply often require multiple site visits. Facility inspections have revealed that many facilities with permit coverage are not in compliance with permit provisions. The stormwater pollution prevention plan (SWPPP) is a critical permit requirement, identifying how stormwater at a facility will be managed to prevent stormwater pollution. However, it is estimated that as recently as August 2001, only about half of the facilities with permit coverage could locate their SWPPP during an Ecology inspection. Even fewer had a SWPPP that was kept up-to-date and fully implemented. Best management practices (BMPs) are

required by the permit to prevent stormwater pollution. Based on site inspections, about 60% to 70% of the facilities could identify one or more BMPs that were maintained to manage stormwater, but no more than 25% would be considered in full compliance with permit BMP requirements. It is estimated that at least 10% to 15% of the permitted facilities have a stormwater discharge that is likely to be causing a measurable environmental problem.

#### *WASTEWATER CHARACTERIZATION*

Stormwater may become contaminated by industrial activities as a result of contact with materials stored outside, spills and leaks from equipment or materials used onsite, contact with materials during loading, unloading or transfer from one location to another, and from airborne contaminants. Stormwater contaminated by contact with raw materials or products (products includes all products, intermediate products, by-products and waste products) during the manufacturing process is considered process water. The discharge of process water is not authorized under this permit and must be covered separately. Many of the potential pollutants in stormwater discharges are industry specific but there are also significant commonalities between the various industrial activities. Motorized equipment, cars, trucks, and heavy equipment are typically used at industrial sites. They represent a source of contamination by petroleum products that is common to most facilities with coverage under this permit. Industrial activities are typically associated with impervious surfaces and the collection of dirt and other debris that stormwater may mobilize. This can result in high levels of suspended solids and turbidity in the stormwater discharge. Metals are also common contaminants at industrial sites either from motorized equipment or raw materials and products.

#### *SEPA COMPLIANCE*

New facilities must demonstrate compliance with the State Environmental Policy Act, SEPA (Chapter 43.21C RCW), before permit coverage can be authorized. Permit modification also requires SEPA compliance and additional SEPA review may be necessary if the modification falls outside of the scope of the initial SEPA evaluation of industrial siting and activities.

Any existing facility planning a significant process change must submit a new application for coverage to modify their permit and demonstrate that the proposed change has complied with SEPA review. A significant process change for industries covered under this permit can result from a change in the nature of pollutants in the discharge or an increase in the volume of discharge. Any change in facility activities or procedures that would alter the types or concentration of pollutants in the stormwater discharge such as by adding a new industrial activity (SIC) that was not previously covered would require modification of permit coverage. Any change that would add additional impervious surface or acreage increasing stormwater discharge by 25% or more would require modification of permit coverage. Facilities must apply for modification of coverage and demonstrate compliance with SEPA before implementing any significant process change.

### **PROPOSED PERMIT LIMITATIONS**

Federal and State regulations require that effluent limitations set forth in an NPDES permit must be either technology-based or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants or to prevent/minimize the introduction of pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits

must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The numeric limits in this permit apply to a specific set of technology-based requirements and water quality-based requirements. The Environmental Protection Agency (EPA) developed technology-based requirements for specific industrial activities. Technology-based numeric limits on stormwater discharge are included for those industries subject to the EPA developed limits. The permit includes water quality-based requirements for industrial activities that discharge to waters listed according to Section 303(d) of the Clean Water Act and as necessary to be consistent with a TMDL determination. No other numeric limits for specific criteria are included. The permit does require stormwater discharges to comply with water quality standards and implement all known, available, and reasonable treatment (AKART) in the form of best management practices for their industrial activity.

#### TECHNOLOGY-BASED LIMITATIONS

The permit includes a narrative requirement to implement all best management practices (BMPs) for stormwater management that are typically applicable to a facility. This is a technology-based requirement and must be implemented regardless of potential impact of stormwater discharges on the receiving waterbody. The applicable BMPs are defined by the stormwater management manual. The *Stormwater Management Manual for the Puget Sound Basin* is the applicable manual for facilities that implemented BMPs prior to the updated manual. New facilities in western Washington are now required to use the *Stormwater Management Manual for Western Washington*. New facilities in eastern Washington are required to use the *Stormwater Management Manual for Eastern Washington* when it is completed. These requirements are discussed further under the “Stormwater Pollution Prevention Plan” section of the fact sheet.

In addition facilities that have a coal pile, hazardous waste landfills subject to the provisions of 40 CFR Part 445 Subpart A, and non-hazardous waste landfills subject to the provisions of 40 CFR Part 445 Subpart B must comply with the applicable EPA technology-based limits. These limits are:

#### Coal Piles

	<b><i>EFFLUENT LIMITATIONS FOR COAL PILES</i></b>	
<b><i>Parameter</i></b>	<b>Average Monthly<sup>a</sup></b>	<b>Maximum Daily<sup>b</sup></b>
pH	Daily minimum is equal to or greater than 6 and the daily maximum is less than or equal to 9.	
Total Suspended Solids (TSS)	NA	50 mg/L
<sup>a</sup> The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the monitoring quarter, the average monthly effluent limitation applies to that sample.		
<sup>b</sup> The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.		

## Hazardous Landfills

	<b>EFFLUENT LIMITATIONS FOR HAZARDOUS WASTE LANDFILLS</b>	
<b>Parameter</b>	<b>Average Monthly<sup>a</sup></b>	<b>Maximum Daily<sup>b</sup></b>
pH	Daily minimum is equal to or greater than 6 and the daily maximum is less than or equal to 9.	
BOD5	56 mg/L	220 mg/L
TSS	27 mg/L	88 mg/L
Ammonia	4.9 mg/L	10 mg/L
Alpha Terpineol	0.019 mg/L	0.042 mg/L
Aniline	0.015 mg/L	0.024 mg/L
Benzoic Acid	0.073 mg/L	0.119 mg/L
Naphthalene	0.022 mg/L	0.059 mg/L
p-Cresol	0.015 mg/L	0.024 mg/L
Phenol	0.029 mg/L	0.048 mg/L
Pyridine	0.025 mg/L	0.072 mg/L
Arsenic (total)	0.54 mg/L	1.1 mg/L
Chromium (total)	0.46 mg/L	1.1 mg/L
Zinc	0.296 mg/L	0.535 mg/L
<sup>a</sup> The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the monitoring quarter, the average monthly effluent limitation applies to that sample.		
<sup>b</sup> The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.		

## Non-hazardous Landfills

	<b>EFFLUENT LIMITATIONS FOR NON-HAZARDOUS WASTE LANDFILLS</b>	
<b>Parameter</b>	<b>Average Monthly<sup>a</sup></b>	<b>Maximum Daily<sup>b</sup></b>
pH	Daily minimum is equal to or greater than 6 and the daily maximum is less than or equal to 9.	
BOD5	37 mg/L	140 mg/L
TSS	27 mg/L	88 mg/L
Ammonia	4.9 mg/L	10 mg/L
Alpha Terpineol	0.016 mg/L	0.033 mg/L
Benzoic Acid	0.071 mg/L	0.12 mg/L
p-Cresol	0.014 mg/L	0.12 mg/L
Phenol	0.015 mg/L	0.026 mg/L
Zinc (total)	0.11 mg/L	0.20 mg/L
<sup>a</sup> The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the monitoring quarter, the average monthly effluent limitation applies to that sample.		
<sup>b</sup> The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.		

## *SURFACE WATER QUALITY LIMITATIONS*

### NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater (stormwater) and receiving water to determine if a discharge is complying with water quality standards.

### NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters. Because most human health-based criteria are based on lifetime exposures, direct comparisons with transient stormwater concentrations may often be inappropriate. This and the high variation in stormwater pollutant concentrations, both between storms and during a single storm

make the application of human health criteria to stormwater particularly problematic. Ecology has therefore placed permit emphasis on implementing best management practices (BMPs) to limit contamination of stormwater. Source control BMPs are expected to eliminate/minimize the potential contamination of stormwater and to protect human health. However, if stormwater monitoring for representative parameters raises questions about the success of the BMP approach, Ecology will have to evaluate how human health criteria could be numerically applied to stormwater discharges.

#### NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington. Best management practices are required in the permit to eliminate/minimize the contamination of stormwater and protect beneficial uses of waters of the state.

#### ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

Antidegradation by definition applies to site-specific conditions. A general permit includes many sites statewide. It is impractical to discuss antidegradation for each site with coverage under the industrial stormwater general permit. However, the permit does require the discharge to comply with water quality standards. Complying with standards will typically afford the protection necessary to prevent ongoing degradation of a waterbody from stormwater discharges. Further assurance of antidegradation compliance is provided by on-site investigations. Ecology prioritizes site visits to most effectively use resources. Complaints about stormwater discharges from a site will receive a high priority for investigation. Discharges to waters known to be impaired as a result of stormwater discharges have a high priority. Results from the stormwater monitoring required by the proposed permit will also be used to prioritize site visits.

#### CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic waterbody uses. The factors include the flow and background level of toxic substances in the receiving water and the flow and concentration of toxic substances in the discharge. The inherent variability of storm events and stormwater discharges add complexity to defining critical conditions. Storm events are naturally occurring and affect the characteristics of both the stormwater discharge and the receiving waterbody. They vary in intensity and duration; can be isolated events or part of storm event pattern. All these factors affect flows and water quality.

Acute conditions are changes in the physical, chemical, or biologic environment which are expected or demonstrated to result in injury or death to an organism as a result of short-term exposure to the substance or detrimental environmental condition. The acute standards for metals are one-hour concentrations not to

be exceeded more than once every three years. The most likely critical stormwater conditions for acute toxicity would be a high intensity short duration storm event that occurs after a long period of no rain. This results in low flows in the receiving water and a high potential for pollutants that stormwater can mobilize. The critical condition for acute toxicity is most likely to occur during a summertime storm event.

Chronic conditions are changes in the physical, chemical, or biological environment which are expected or demonstrated to result in injury or death to an organism as a result of repeated or constant exposure over an extended period of time to a substance or detrimental environmental condition. The chronic standards for metals are four-day averages not to be exceeded more than once every three years. Since chronic exposure is over several days, the "first flush" effect that occurs after a dry period is not as likely to be significant. Chronic exposure also requires storm events that result in stormwater discharge over a four-day period. However, the critical condition is still most likely to occur after the summer drought when waterbody flows are low. Much of the stormwater that falls in a drainage basin at the beginning of the wet season will be absorbed reducing the impact on flow in the receiving waterbody. During the same time the stormwater discharge off a developed site is likely to be in direct proportion to the storm event.

#### MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

When authorized, mixing zones define the point of compliance of water quality-based criteria in the receiving waterbody. The potential mixing zone is defined in the Washington Administrative Code (WAC) in terms of linear dimensions and volume of the receiving water. The actual mixing zone is defined in relation to the point of discharge and how the discharge mixes with the receiving water. Only the discharge plume can be considered as part of the actual mixing zone. In order to determine actual compliance with water quality-based criteria in the receiving water, one would have to sample within the discharge plume at the edge of the allotted mixing zone. Without a visual marker in the discharge such as a dye (discharge turbidity could be a marker), it is virtually impossible to sample the receiving water for compliance with precision. Typically a mixing zone dye study or modeling is applied to establish the amount of mixing a discharge will receive in the allotted mixing zone. This mixing is expressed as a dilution factor. For specific pollutants, the background level of the pollutant in the receiving water also factors into determining the available dilution. These factors become part of a calculation used to set a discharge limit that must be met at the point of discharge (or as close to point of discharge as practical). All of these considerations are very site-specific and difficult for stormwater discharges. Since a general permit must apply to a number of different sites, precise mixing zones and available dilution are not easily applied to facilities covered under a general permit.

This general permit does authorize the application of a mixing zone to determine if a Permittee's discharge complies with water quality-based standards. To be eligible the Permittee must have applied all appropriate best management practices for stormwater management at their site and allowable mixing must not result in loss of beneficial uses in the receiving water. A discharge that is not causing or contributing to a water quality violation will typically not cause a loss of beneficial uses. New facilities must request a mixing zone by completing that portion of the application for coverage. The existing and previous versions of the permit authorized a mixing zone when considering compliance with water quality-based criteria. Although the revised permit is more specific on the dimensions of the mixing zone

and how it will be applied, it is not introducing a new authorization to existing Permittees. Therefore, existing Permittees will be eligible for a standard mixing zone without submitting an application for modification of coverage.

A mixing zone will not be allowed for pollutants of concern in waters listed in Washington State pursuant to Section 303(d) of the Clean Water Act for either new or existing permit coverage. These waters have been listed because of measurements in the waterbody that exceed water quality-based standards. Where background in the receiving water is at or above water quality standards at the point of discharge, there is no available dilution and therefore a mixing zone is not applicable. Waters subject to a total maximum daily load determination (TMDL) also have requirements that may preclude a mixing zone. The discharge of stormwater to these waters must be consistent with the TMDL determination.

WAC 173-201A-100 requires that the permit establish the allowable size of the mixing zone. In order to provide this specificity within the context of a general permit, the permit has set the default or standard mixing zone size:

- a. Streams and rivers: The mixing zone shall extend in the direction of the current from the point of discharge until there is complete mixing but not to exceed 300 feet.
- b. Lakes: The mixing zone shall extend in any horizontal direction from the point of discharge 200 feet.
- c. Estuaries: The mixing zone shall extend in any horizontal direction from the point of discharge 200 feet.
- d. Oceanic: The mixing zone shall extend in any horizontal direction from the point of discharge 300 feet.
- e. Other: The mixing zone for any surface waterbody that is not covered above will be determined by Ecology.

For stormwater discharges, WAC 173-201A-100(10) allows exceedences of the typical numeric size criteria for mixing zones. The general permit will accommodate this option through a procedure that requires the Permittee to request an expanded mixing zone. New facilities and existing facilities may request an expanded mixing zone through the application for coverage/modification by completing the portion that applies to the expanded mixing zone. They must complete the Public Notice requirements as outlined in the permit. Ecology will consider the information on the request form and any public comments to determine if an expanded mixing zone will be authorized.

#### DESCRIPTION OF THE RECEIVING WATER

This general permit applies to facilities across the state. There are many different receiving waters. Stormwater may be discharged to a municipal separate stormwater sewer system, a stormwater conveyance system such as a roadside ditch, or directly to a creek, lake, pond or other surface waterbody. Typically the discharge will either directly or indirectly enter waters classified as Class AA or Class A with beneficial uses that include water supply, fish/shellfish, wildlife habitat, and recreation. In highly urbanized areas the discharge will likely enter a collection system and commingle with other sources of stormwater before discharging to a receiving water. In these urbanized locations the receiving water is likely to be more than a small creek in size but also likely to be subject to a significant number of municipal and industrial stormwater discharges. In a more suburban setting the receiving water is not as likely to be subject to multiple municipal and industrial stormwater discharges but is more likely to be a small creek or intermittent stream. In both cases, the potential impact of stormwater is significant.



## SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). The standard criteria that apply to Class A waters are listed below:

Fecal Coliforms	Fresh water - 100 organisms/100 mL maximum geometric mean Marine water - 14 organisms/100 mL maximum geometric mean
Dissolved Oxygen	Fresh water - 8 mg/L minimum Marine water - 6 mg/L minimum
Temperature	Fresh water - 18 degrees Celsius due to human activities Marine water - 16 degrees Celsius due to human activities
pH	Fresh water – 6.5 to 8.5 standard units Marine water -7.0 to 8.5 standard units
Turbidity	Less than 5 NTU above background when background is 50 NTU or less, or have no more that a 10% increase if background exceeds 50 NTU
Toxics	No toxics in toxic amounts

## CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Water quality-based limits for numeric criteria for all Permittees are not included in the proposed permit. A permit does not typically set limits and require monitoring for all criteria. Instead there is typically a review of wastewater data to determine the parameters of concern and, either through direct sampling or comparison to data of similar facilities, set limits and monitoring for discharge of pollutants that have a reasonable potential to violate water quality standards. Determining reasonable potential includes a statistical determination of the maximum concentration of the pollutant likely to occur in the discharge, factoring in available dilution, and accounting for receiving water background levels for the pollutant. Some criteria are dependent on additional site-specific conditions, for example, hardness of the discharge/receiving water is necessary to calculate the criteria for many metals. These site-specific considerations are not easily applied to a general permit. Ecology has therefore placed permit emphasis on implementing best management practices (BMPs) to limit contamination of stormwater. Source control BMPs and treatment BMPs as necessary are expected to prevent water quality violations. Therefore the permit does not set water quality-based effluent limits for all permittees. The permit does apply limits as appropriate for discharges to impaired waters. If stormwater monitoring for representative parameters raises questions about the success of the BMP approach, Ecology will evaluate how water quality-based numeric criteria could be applied in the next permit cycle.

Although the proposed permit does not include specific water quality-based numeric limits for all discharges, it does include a narrative requirement to comply with water quality standards. If site-specific analysis reveals that stormwater discharges are violating water quality standards, enforcement action may be taken. Ecology expects the typical enforcement action will be an Order with a compliance schedule to achieve standards. Ecology may also require the Permittee to obtain an individual permit if this general permit is not adequate to address the water quality violation. The permit does require new facilities that propose to discharge to waters listed under Section 303(d) of the Clean Water Act, to meet water quality criteria for the parameters of concern before discharge to impaired waters. This requirement will be expressed as an effluent limit issued during authorization of coverage. Any facility that discharges to

waters subject to a TMDL determination must be consistent with the TMDL determination. If the TMDL limits pollutant load or concentration for stormwater discharges, these limits will be included in permit coverage.

#### BENCHMARKS

The permit is proposing benchmark values. Benchmark values are not water quality criteria or effluent limits but they are intended to identify discharges that are at low risk of violating water quality standards. Discharges that do not exceed the benchmark values are not likely to violate water quality standards. Discharges that do exceed one or more benchmark values represent a higher risk of violating water quality standards. Site-specific conditions must still be considered to determine if an actual water quality violation exists. The following parameters and values are included in the proposed permit.

Parameter	Benchmark Value	Basis
pH	In the range of 6 to 9 standard units	USEPA MSGP
Turbidity	25 NTU	Ecology Field Observation
Copper	63.6 µg/L	USEPA MSGP
Lead	81.6 µg/L	USEPA MSGP
Zinc	117 µg/L	USEPA MSGP
Oil and Grease	15 mg/L	USEPA MSGP
Ammonia	19 mg/L	USEPA MSGP
BOD5	30 mg/L	USEPA MSGP
Phosphorus (total)	0.5 mg/L	USEPA MSGP

USEPA MSGP is the multi-sector general permit for industrial activities issued by the Environmental Protection Agency, October 20, 2000.

#### WHOLE EFFLUENT TOXICITY

Whole effluent toxicity (WET) testing of stormwater discharges covered under a general permit is not appropriate at this time. 40 CFR 122.44(d), RCW 90.48.520, and Chapter 173-205 WAC all have as their goal the eventual elimination of the discharge to surface water of toxics in toxic amounts. The steps contained in these requirements for making progress toward this goal are technology-based controls, chemical-specific effluent limits, and then WET testing with limits and toxicity identification evaluations if needed. These are the same regulatory steps in the same order as they were generally applied in industrial process wastewater discharge permits resulting in large improvements in effluent and receiving water quality over the years. Mixing zones and associated determinations of available dilution are key elements in this process because they are necessary in order to be able to determine what is a “toxic amount.” As discussed previously, determining the available dilution in a mixing zone is problematic for stormwater discharges. It is an even greater challenge within the context of a general permit. Available dilution determinations for each facility with coverage are not available at this time for Permittees under the industrial stormwater general permit.

40 CFR 122.44(d) is the federal regulation which requires limits in NPDES permits in order to protect water quality from the discharge of effluent toxicity. 40 CFR 122.44(d)(1)(v) requires that an NPDES permit must contain effluent limits for whole effluent toxicity when the permitting authority has determined, using the procedures in 40 CFR 122.44(d)(1)(ii), that the discharge has a reasonable potential to exceed the state’s narrative water quality criteria for toxicity. 40 CFR 122.44(d)(1)(v) continues by saying that limits on whole effluent toxicity are not necessary if the permitting authority has demonstrated that chemical-specific limits, determined using the same procedures in 40 CFR 122.44(d)(1)(ii) as for

WET limits, are sufficient to maintain state water quality standards. 40 CFR 122.44(d) gives more priority to chemical-specific limits than WET by allowing chemical-specific limits instead of WET limits when they are sufficiently protective while containing no provision for the reverse (WET instead of chemical-specific). This is an acknowledgement that chemical-specific limits and monitoring are a more direct and efficient method for achieving the goal of controlling toxicants in wastewater even though WET testing is sometimes also necessary. Also of importance in discussing stormwater WET testing is that the procedures in 40 CFR 122.44(d)(1)(ii) allow the permitting authority to account, where appropriate, for dilution of the effluent in the receiving water in assigning either a chemical-specific or a WET limit.

RCW 90.48.520 is the state law that mandates NPDES permit limits in order to improve water quality by controlling effluent toxicity. RCW 90.48.520 begins by instructing the Department of Ecology to incorporate conditions in all state and federal discharge permits which require all known, available, and reasonable methods to control toxicants in wastewater. In the general permit these conditions take the form of stormwater management plans and best management practices (BMPs) which are designed to control the discharge of stormwater toxicity along with other forms of pollution. RCW 90.48.520 then continues by stating that these conditions may include, but are not limited to: (1) Limits on the discharge of specific chemicals, and (2) limits on the overall toxicity of the effluent. Chemical-specific limits are listed first and, even though the ordering might or might not reflect the actual legislative priority, it only makes sense to control the known toxicants first before requiring WET testing. WET testing and toxicity identification evaluations are a waste of resources for stormwater until more basic chemical specific monitoring has been completed. WET testing should be delayed until after baseline data on basic parameters have been collected.

Chapter 173-205 WAC contains the specific instructions for the Department of Ecology to use in writing NPDES permits in order to implement WET testing and limits. WET testing requirements begin with an effluent characterization to establish a baseline toxicity level and determine the need for WET limits. If the discharge cannot meet a WET limit, then WAC 173-205-090 and the permit will require a toxicity identification/reduction evaluation (TI/RE) in order to come into compliance with the WET limit. An effluent characterization, compliance monitoring, and TI/RE for WET will be expensive and take time to complete. If the TI/RE finds that a toxicant responsible for the toxicity in an effluent already has water quality criteria for aquatic life protection and could have been controlled sooner at less expense by BMPs or a chemical-specific approach, then there will have been a needless waste of resources. In order to allow time for implementation of the more direct approaches for toxicant control to occur first and in order to avoid characterizing a discharge which will change and possibly need to be recharacterized, WAC 173-205-030(4) allows the Department of Ecology to delay characterization. WET characterization will not be included in this permit. The permit will instead begin a process to examine chemical specific toxicity. Ecology will evaluate the results of this testing to determine if WET testing will be included in the next permit cycle.

#### SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). The permit requires best management practices (BMPs) to limit contamination of stormwater. Source control BMPs are expected to eliminate/minimize the potential contamination of stormwater and comply with aquatic sediment standards. However, if stormwater monitoring for representative parameters raises questions about the success of the BMP approach, Ecology will consider additional permit requirements in the future to assure compliance with sediment standards.

## *GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). The permit requires best management practices (BMPs) to limit contamination of stormwater. Source control BMPs are expected to eliminate/minimize the potential contamination of stormwater and to protect ground water. However, if stormwater monitoring for representative parameters raises questions about the success of the BMP approach, Ecology will consider additional permit requirements and possible limits to protect ground water.

## **MONITORING REQUIREMENTS**

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. Ecology is proposing limited sampling and analysis as well as visual monitoring for this permit. Monitoring results of stormwater sampling will be reported. This sampling and reporting requirement is the cornerstone of Ecology's intention to provide tangible evidence of Permittees' performance and the overall effectiveness of this permit.

The permit proposes quarterly monitoring. This monitoring frequency reflects a consideration of the certainty, risk, and cost associated with monitoring stormwater and the objectives of the permit. Certainty has to do with how much monitoring is required to achieve a level of confidence that the data are representative of the pollutants in the discharge. The risk is an assessment of the environmental impacts from pollutants and how well the data will represent any environmental concern in discharges from a site. Cost considers all associated monitoring expenses: time to sample, expense of shipping and analysis, training and equipment requirements. The objectives define what the sampling is to accomplish.

The proposed permit includes monitoring to provide tangible evidence of how well the permit requirements control pollutants in stormwater both at a specific site and statewide. The intent is to provide an overview of the potential to pollute at individual industrial sites and a baseline of data for considering where we are and what may require changing in the next permit reissue. These objectives suggest that all Permittees should conduct monitoring but only for a minimal set of parameters to limit cost. There is a known risk to the environment from pollutants in stormwater. It is much harder to know when a specific discharge is causing a problem and to define a precise threshold. The minimum set of parameters required in the permit should be adequate under most conditions to identify sites that are most likely to pose a risk to the environment. Providing a reasonable level of certainty for achieving the objectives for the monitoring is difficult for stormwater. Stormwater quality varies both between storm events and during a storm event, limiting the ability to extrapolate data from one storm to another or provide statistically representative data for all types and combinations of storms. Ecology contracted with Woodward-Clyde Consultants to prepare a Stormwater Quality Monitoring Guidance Manual (November 1995). In the chapter entitled "Monitoring to Assess Compliance with Surface Water Quality Criteria" they recommended monitoring three to five storms per season to provide reasonably representative monitoring. Quarterly monitoring achieves the recommended frequency and combined with guidance on when and how to monitor should be sufficient to achieve monitoring objectives. A minimum of two years of monitoring was considered necessary to reduce the risk of results being skewed by an unusually wet or dry years. Eight data points are also a minimal number for attaining some statistical significance.

Permittees will receive a guidance document from Ecology on when and how to sample stormwater to meet the conditions of the permit. The guidance and the proposed permit incorporate the EPA recommended guidelines for when to monitor stormwater discharges. Ecology did change the antecedent

72-hours of no precipitation guidance provided by EPA. Weather patterns in western Washington are significantly different from much of the United States and 72-hours is overly restrictive and would likely make sampling a qualifying storm event overly burdensome for Permittees. Sampling guidance will still recommend a longer period of no precipitation but only 24 hours will be required. The guidelines establish the appropriate storm event as:

- 0.1 inches of precipitation
- at least 24-hours of no precipitation prior to storm event

The sample should be taken within the first 30 minutes after the stormwater discharge begins. If that is not possible, EPA guidance allows sampling within the first hour. The proposed permit requires sampling within the first hour but Permittees will be instructed to sample within the first 30 minutes if possible. The Permittee should plan to get a valid sample as soon as possible each quarter. If the Permittee is unable to sample according to all listed criteria, they may sample and submit results along with an explanation of what criteria were not followed and why. The explanation does not constitute compliance with sampling criteria but will be considered by Ecology in determining if any enforcement action is warranted. Failure to sample during a quarter where appropriate rainfall events occurred is a permit violation.

Based on their site analysis and the Ecology guidance document, permittees will determine where and how they will sample stormwater discharge from their site, including a determination of representative sampling. Representative sampling does not require that all discharge points be sampled. Multiple sampling points are only required where the exposure to pollutants will be significantly different and result in the presence of different pollutants. The Permittee may limit sampling and analysis to the discharge most likely to have the highest concentration of pollutants as long as this will not misrepresent the presence of different pollutants in discharges and will not underestimate the pollutant loading from the site. The proposed permit requires the Permittee to document this in their monitoring plan which is included in their stormwater pollution prevention plan.

Quarterly monitoring will begin with the first quarter of 2003. There are two significant reasons for delaying the beginning of monitoring for about 6 months after the effective date of the permit. The first is that Ecology will require time to modify the Water Quality Permit Life Cycle System database and set up electronic submission. It is important that all systems are in place before data is collected. The second is that this is a new initiative and it will take time for Permittees to prepare. Ecology also intends to do informational workshops to help Permittees implement stormwater monitoring. Data are only valuable if they are of useful quality. Taking time to implement monitoring and increase the probability of good data is much more valuable than rushing to collect data immediately after the permit becomes effective.

The proposed permit recognizes that some Permittees may pose virtually no probability of environmental risk. However, Ecology does not have the data to categorically rule out any Permittees at this time. Therefore all Permittees will be required to conduct base level monitoring except for an allowance as noted in the following paragraph. Some Permittees will do additional monitoring based on the potential risk from industry specific pollutants. Benchmark values have been set for the base level and additional pollutants. Permittees that achieve eight consecutive quarters at or below benchmark values for all the identified pollutants may suspend monitoring for the remainder of the permit term. Consecutive means all quarters in which a discharge was sampled. Any quarter where there was no discharge will not be counted. Ecology will also authorize suspension of monitoring for a 303(d) listed parameter of concern if eight consecutive samples fail to detect the presence of the listed parameter. Benchmark values and suspension of monitoring for consistent attainment does not apply to monitoring for permit limits. Facilities that are subject to permit limits; landfills, coal piles, impaired waters; must conduct quarterly monitoring for the parameters subject to permit limits throughout the duration of this permit. Monitoring frequency for permit limits will be reevaluated at the next permit reissue based on the data collected.

There are facilities that qualify for and receive an extreme hardship fee reduction under the Wastewater Discharge Permit Fee Rule (Chapter 173-224 WAC). Extreme hardship can only apply if the annual gross revenue of goods and services produced using the processes regulated under the permit is one hundred thousand dollars or less and the fee poses an extreme hardship to the business. Permit managers may reduce or waive the monitoring requirement for these facilities. The proposed permit requires an additional demonstration that the facility does not represent a significant environmental risk. As of January 15, 2002 there were 10 facilities that might qualify for this exception to the monitoring requirements.

#### BASE LEVEL MONITORING REQUIREMENTS

The proposed permit is not attempting to address all the possible pollutants from each industrial facility. Instead, a basic set of parameters were selected to provide a strong indication of how well a facility is doing. The representative parameters are pH, turbidity, zinc, and oil & grease. Collectively these parameters should indicate how well a facility is doing at preventing stormwater contamination at a minimal level of laboratory expense. The permit proposes that all facilities must conduct this base level monitoring with the possible exception of “extreme hardship” noted above. Ecology expects to conduct independent testing using an expanded set of parameters to determine how well the representative approach is working. Ecology will evaluate the monitoring requirements at the next reissue of this permit. The data will be used to better target monitoring requirements and could result in increasing or decreasing monitoring, adding or subtracting parameters, and adding or removing monitoring requirements for industrial groups.

**pH** is included in the base level monitoring requirements to determine how acidic/alkaline the discharge is. Extremes in pH are toxic to fish and unsuitable for ground water used as a drinking water source. Rainfall is slightly acidic as it hits the ground but buffers quickly achieving near neutral pH. Significantly high or low pH in the stormwater discharge is a strong indication that the stormwater has been contaminated. If the stormwater discharge is strongly acidic, 5 or lower, or strongly alkaline, 10 or above, the Permittee should immediately begin looking for a source of contamination. If the pH of the stormwater discharge is in the range of 6 to 9 standards units, it is not likely to cause a water quality violation. Unless the discharge is subject to a pH limit (S3.C. or S3.D.), the Permittee is authorized to use litmus paper for measuring pH.

**Turbidity** of water is related to the amount of suspended and colloidal matter contained in the water. Increasing turbidity reduces the clarity and penetration of light, negatively impacting aquatic organisms. Suspended solids can settle out, covering up gravel beds and suffocating or driving off benthic organisms. Fish may be harmed by suspended particles which can irritate the gills. In addition many of the pollutants that are found in stormwater are attached to the small particles that become suspended in the stormwater increasing their potential toxicity. Turbidity is an indirect measure of total suspended solids and therefore high turbidity is a strong indicator of stormwater contamination. Total suspended solids and settleable solids are tests that were also considered as an indicator. Turbidity was chosen for base level monitoring in part because Chapter 173-201A WAC includes a turbidity standard. This provides a more direct basis for determining compliance with water quality standards. Turbidity can also be conducted onsite if the Permittee purchases a turbidity meter. Based on field experience, Ecology staff determined that a stormwater discharge of 25 NTU or less will typically cause no water quality violation.

**Zinc** can be toxic to aquatic organisms and is a common constituent of contaminated stormwater. There are a number of metals that may be found in stormwater discharges but a review of data supplied by the State of Connecticut showed that zinc was more commonly associated with stormwater than copper and lead. Where either copper or lead tended to be significant in the stormwater, zinc would also be found at significant levels. Therefore, total zinc was chosen as the representative metal for base level monitoring. In their Multi Sector General Permit (MSGP), the Environmental Protection Agency established a

benchmark value for zinc (total) of 117 µg/L. Zinc concentrations at or below that value will not typically cause a water quality violation.

**Oil and grease** has been selected as a base level monitoring requirement. It includes thousands of organic compounds with varying physical and chemical properties. Oil and grease exhibit an oxygen demand. Oil may adhere to fish gills or coat and destroy algae or other plankton. Oil will also taint the flesh of fish and shellfish. Although the oil and grease test does not include all the hydrocarbons that may result from petroleum contamination of stormwater, it will test for the common contaminants. It is a more economical test than some of the other hydrocarbon tests and combined with the permit requirement to visually identify any oil sheen in stormwater discharge, should reveal any problem with petroleum contamination. The Environmental Protection Agency MSGP benchmark value for oil and grease is 15 mg/L.

#### ADDITIONAL MONITORING REQUIREMENTS

The proposed permit also includes additional monitoring for specific industrial groups or where zinc levels exceed the benchmark value in two consecutive samples. Additional monitoring for these groups was considered appropriate because of high risk to the environment or significant probability of contaminants that the base level parameters would not reveal.

**Exceeding Zinc Benchmark:** Copper and lead pose a significant environmental risk. There was a strong correlation of one or both of these parameters to high levels of zinc in the data from Connecticut. Therefore the proposed permit requires any Permittee that exceeds the benchmark value for total zinc in two consecutive quarters to begin monitoring for total copper and total lead as well as total zinc in all succeeding monitoring. The EPA benchmark values are: copper (total), 63.6 µg/L and lead (total), 81.6 µg/L.

**Timber Product Industry and Paper and Allied Products:** These industrial activities often have piles of bark, wood, wood debris, wood chips, and sawdust that are exposed to stormwater. This exposure is very likely to add organic material to the stormwater that can result in the depletion of oxygen in the receiving water. This represents a significant environmental risk and one not addressed by the base level parameters. Therefore the proposed permit includes monitoring for biochemical oxygen demand (BOD5). The EPA benchmark for BOD5 is 30 mg/L. Facilities with eight consecutive quarters of monitoring at or below the benchmark value can suspend monitoring for BOD5 for the remainder of the permit cycle.

**Air Transportation:** This industrial activity will typically use deicing/anti-icing chemicals on runways and aircraft during the winter months. These chemicals can be toxic to aquatic organisms, contaminate ground water and cause a depletion of oxygen in the receiving water. This is a serious environmental concern and the base level parameters are not adequate to indicate if a problem may exist. Because the application of these chemicals are confined to freezing conditions, sampling will only be required during the months of December, January, and February. During this period the Permittee is to take four (4) samples from separate discharge events. All samples will be analyzed for biochemical oxygen demand (BOD5). Samples will also be analyzed for ammonia and for nitrogen as nitrate/nitrite if urea is applied. The EPA benchmark for BOD5 is 30 mg/L, for ammonia it is 19 mg/L, and for nitrogen as nitrate/nitrite it is 0.68 mg/L.

**Chemical and Allied Products and Food and Kindred Products:** These industrial activities are at risk of contaminating stormwater with nutritive and organic chemicals. Phosphorus and nitrogen contamination can artificially stimulate plant growth resulting in decaying matter that depletes oxygen in the water causing toxic conditions. Organic chemicals can also cause a depletion of oxygen. The base level parameters will not predict the potential environmental risk from these chemicals. Therefore this group of industrial activities is required to conduct additional stormwater analysis for nitrogen from nitrates and nitrites, total phosphorus, and biochemical oxygen demand (BOD5). The EPA benchmark values for these chemicals are: nitrate/nitrite nitrogen, 0.68 mg/L; total phosphorus, 2.0 mg/L; and BOD5, 30 mg/L.

**Primary Metals, Metals Mining, Automobile Salvage, Scrap Recycling, and Metals Fabricating:** These industrial activities have a high risk of stormwater contamination by metals. Because metals toxicity is a significant environmental risk, monitoring for these industries will include copper, lead, and hardness in addition to the base level monitoring. Hardness is included because it influences the toxic effect of the metals. Since there is no “correct” hardness, there is no benchmark value for hardness and it is not considered in determining if a facility may suspend monitoring based on consistent attainment of benchmark values. The EPA benchmark values are: total copper, 63.6 µg/L and total lead, 81.6 µg/L.

#### MONITORING FOR LIMITS

**Hazardous and Non-hazardous Landfills:** The Environmental Protection Agency (EPA) has recently adopted technology-based requirements that are applicable to landfills. The effluent development document applies to hazardous waste sites subject to the provisions of 40 CFR Part 445 Subpart A and to non-hazardous waste landfills subject to the provisions of 40 CFR Part 445 Subpart B. Hazardous waste facilities include industrial activities that treat, store or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA. Non-hazardous waste facilities are those landfills or land application sites that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA. There are exceptions listed under 40 CFR 445.1 that may apply. Landfill operations with coverage under the general permit should review the exceptions, particularly any facility where the landfill is operated by and limited to wastes generated by the permitted facility. The permit sets the monitoring requirement at quarterly for these facilities. Because effluent limits have been set under EPA effluent guidelines, there is no option to suspend monitoring. However, in the next permit cycle, Ecology could alter the frequency based on a review of the data reported under the proposed permit.

**Coal Piles:** The EPA has generated effluent guidelines for discharges from coal piles in 40 CFR Part 423. These requirements were developed for the steam electric industrial category but are applied to any industrial activity that maintains a coal storage pile. The permit sets the monitoring requirement at quarterly for these facilities. There is no option to suspend monitoring but based on data, Ecology could alter the frequency in the next permit cycle. To comply with this permit provision, the sample must be taken before the stormwater runoff commingles with stormwater from any other source. Permit limits are for the coal pile runoff and do not allow for dilution by other sources of stormwater.

**Impaired Waters:** The proposed permit sets limits for discharges to impaired waters. Because there are many listings under Section 303(d), the permit does not include the specific limits for each listing. Total maximum daily load determinations (TMDLs) or Water Cleanup Plans may require permit limits to demonstrate compliance with the TMDL. These will be handled on a case-by-case basis. Limits for impaired waters will appear in a permit cover sheet issued at the time coverage is authorized for new permit coverage. Facilities currently under permit coverage will receive a permit cover sheet with limits before monitoring begins. This delay is necessary to collect data necessary to identify which existing facilities discharge to impaired waters. New facilities are expected to comply with the permit limits immediately. Existing permitted discharges that exceed the limit will be considered by Ecology to be



under a compliance schedule to achieve compliance with the limit. The Permittee must make a good faith effort at improving their best management practices to reduce the pollutant of concern. The process begins with identifying potential sources of the pollutant and structural and nonstructural BMPs to reduce the pollutant in stormwater. Each following year the Permittee must implement BMPs beginning with nonstructural source control BMPs and progressing to treatment BMPs if necessary to achieve compliance with water quality standards. Each step must be documented annually in a report included in the stormwater pollution prevention plan. The report must include the steps that were taken and the results achieved. The permit provides this adaptive management approach until such time as a TMDL is completed defining waste load allocations.

Ecology has determined that stormwater discharges are not a contributor to exceedences of temperature. Since high temperatures in the receiving water are a summer phenomenon and storm events are very limited during this period, there is very little potential for stormwater to contribute to the high temperature impairment. Storm events that do happen during the summer are more likely to reduce ambient temperature than to raise it. Therefore, the permit does not require temperature monitoring for stormwater discharges to temperature impaired waterbodies. Monitoring for fecal coliform will not be required of all stormwater discharges to waters impaired for this pollutant. Permittees that document that there is no source of fecal coliform from their industrial activities will not be required to monitor for it. This documentation must include all potential industrial sources including the presence of animals as part of the industrial activity (e.g. guard dogs). All other listed parameters will require monitoring. However, the Permittee may suspend monitoring for a listed parameter if eight consecutive analyses fail to detect the presence of the parameter.

#### *LAB ACCREDITATION*

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Turbidity and pH are parameters that the Permittee may monitor and report without lab accreditation.

### **OTHER PERMIT CONDITIONS**

#### *REPORTING AND RECORDKEEPING*

**S5. – Reporting and Recordkeeping Requirements:** The reporting and recordkeeping requirements of Special Conditions S5. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210). Discharge monitoring reports must be submitted to Ecology every quarter even if there was no discharge or if monitoring was suspended based on consistent attainment of benchmark values. This will assure that Ecology records are maintained and demonstrate compliance with monitoring requirements by the facility.

#### *“NO EXPOSURE” CERTIFICATE*

**S6. - “No Exposure” Certificate:** Any facility that qualifies may submit a request for “no exposure” exemption from permit coverage. “No exposure” means that all industrial activities are conducted under cover so that there is no reasonable probability that pollutants from industrial activities will come in contact with stormwater. Pollution from air vents will typically not preclude qualification as long as the amounts are insignificant and in compliance with air quality regulations. Stormwater off roofs will typically be acceptable unless the roof composition itself is likely to contribute pollutants to stormwater in significant quantities.

There are potentially many facilities that are classified as light industry (see Appendix C) that do not have coverage under the current permit but do discharge stormwater to surface water. There are just over 400

facilities currently permitted with standard industrial codes (SIC) under light industry but almost 17,000 facilities in the state that qualify as light industry based on SIC. Many are likely to discharge to surface water or a stormwater system that discharges to surface water. Ecology does not have the resources to field inspect all the facilities that may apply for the “no exposure” certificate. Therefore applicants will automatically be granted the “no exposure” exemption 60 days after submitting the form to Ecology unless Ecology responds in writing, denying or delaying the “no exposure” status. Ecology will deny applications that do not meet the minimum requirements based on responses on the application form. Ecology will post a listing of facilities receiving “no exposure” exemption on an Ecology web page for public review. The “no exposure” certificate conveys to Ecology the right to enter and inspect the facility and facilities must reapply every five years.

#### *COMPLIANCE WITH WATER QUALITY STANDARDS*

**S7.- Compliance With Standards:** The proposed permit requires compliance with water quality standards. All facilities with permit coverage are expected to have best management practices to manage stormwater so that their stormwater discharge will not cause or contribute to a violation of water quality standards in waters of the state. Ecology recognizes the difficulty stormwater presents to easily determine when a discharge is causing a water quality violation. Ecology also recognizes the challenges associated with designing stormwater management for storm events that vary in duration, intensity, and volume. A general permit is also limited in the extent it can address considerations that are very site-specific. The issue focuses on providing reasonable assurance of environmental protection within the context of what is reasonably achievable. The proposed permit has included the following provisions to address this issue:

- all known available and reasonable treatment (AKART)
- monitoring and analysis
- mixing zones
- zero dilution for 303(d) listed waters
- stormwater management manual (SWMM) minimum technical requirements for treatment

Permittees are required to implement all the best management practices (BMPs) as identified in Special Condition S9, Stormwater Pollution Prevention Plan. Operational and structural source control BMPs must be in place, operational, and maintained. Treatment BMPs are also required for industrial activities that unavoidably lead to significant stormwater contamination. The stormwater management manual (SWMM) identified BMPs necessary to limit the exposure of stormwater to pollutants and in some cases to apply treatment. Implementation of these BMPs is presumed to typically result in discharges of stormwater that will not violate water quality standards. If the prescribed BMPs fail to be protective, the Permittee is required to add additional BMPs to achieve compliance. Monitoring and analysis was included to provide an indication of when water quality violations may be a concern and additional BMPs required. Final consideration of a water quality violation will consider available dilution except for parameters of concern in waters listed according to Section 303(d) of the Clean Water Act. Application of these provisions are expected to provide protection of waters of the state that is reasonably achievable.

The *Stormwater Management Manual for Western Washington* (SWMM) is the current standard for minimum technical requirements addressing water quality of stormwater through treatment BMPs for facilities in western Washington. The previous manual, *Stormwater Management Manual for the Puget Sound Basin*, applies to facilities that implemented BMPs prior to the availability of the updated manual. These facilities are not required to update their BMPs to the new standard unless they are not meeting water quality standards or they are redeveloping their facility. Under the SWMM for western Washington, the design basis for volume-based treatment systems is the 6 month, 24 hour storm event. For flow rate-based treatment systems, the design basis is the flow rate at, or below which, 91% of the runoff volume, as estimated by an approved continuous runoff model, will be effectively treated. This design storm was derived to assure that stormwater treatment facilities were sized to treat 91% of the stormwater. The

design storm for eastern Washington has not been determined yet but it will be defined in the *Stormwater Management Manual for Eastern Washington* when it is completed. Although the storm event may be different than the 6 month 24-hour event defined for western Washington, it will meet the same type of standard, 91% of stormwater treated, as western Washington. Treatment systems must be fully functional for all storm events that do not exceed the design storm. Treatment systems that fail to fully treat stormwater during storms that exceed the water quality design storm are not in violation of the permit provisions. Failure of source control BMPs will be considered a violation of permit provisions even when the storm exceeds the water quality design storm.

#### *OPERATION AND MAINTENANCE*

**S8. - Operation and Maintenance:** The Permittee must properly operate and maintain all best management practices for stormwater management. However, Ecology recognizes that circumstances can develop that require bypassing the stormwater management systems. Special Condition S8 includes bypass procedures, identifying when it may be authorized and the Permittee's responsibility to inform Ecology.

#### *STORMWATER POLLUTION PREVENTION PLAN (SWPPP)*

**S9. - Stormwater Pollution Prevention Plan (SWPPP) for Industrial Facilities:** The Stormwater Pollution Prevention Plan, is the very heart of permit requirements under the industrial stormwater general permit. The SWPPP is the **plan** for and the **action** of managing stormwater to comply with the state's requirement under chapter 90.48 RCW to protect the beneficial uses of waters of the state. The permit identifies a few situations such as existing facilities coming under permit for the first time, where time is allowed to fully develop and implement the SWPPP. But for those facilities currently under permit coverage and for all new facilities, the permit requires a fully developed and implemented SWPPP. The SWPPP must be retained on-site or within reasonable access to the site and available for review by Ecology. The SWPPP must identify potential sources of stormwater contamination from industrial activities and how those sources of contamination are managed to prevent or minimize contamination of stormwater. If contamination of stormwater is unavoidable, the SWPPP will quantify the environmental risk and determine if treatment of the stormwater is necessary to prevent a violation of water quality standards and loss of beneficial uses in waters of the state. The SWPPP must be a "living" document that is under consistent review and revised as necessary to assure that stormwater discharges are not resulting in degradation of the states waters. Pollution prevention is not a one time effort but requires constant vigilance and full participation if it is to be effective. Like maintaining safety at the site, the SWPPP will only be successful when it becomes part of the way all employees at the site do business.

**Best management practices (BMPs)** are the action items identified in the SWPPP to manage and treat stormwater. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. In the proposed permit, BMPs are categorized as operational source control, structural source control, and treatment BMPs. All facilities are required to implement operational and source control BMPs. Treatment BMPs are required when operational and source control BMPs are not sufficient to assure compliance with water quality standards.

Ecology released the *Stormwater Management Manual for Western Washington* (SWMM) in September 2001. The *Stormwater Management Manual for Eastern Washington* is still under development. Until the eastern Washington manual is completed, facilities in eastern Washington should use the western Washington manual where applicable or other applicable stormwater management practices specific to eastern Washington. All references to SWMM requirements for facilities in eastern Washington are

intended to mean the Eastern Washington Manual when it becomes available. The SWMM was recently revised and many facilities already under permit based their BMPs on the previous version. The proposed permit does not require current Permittees to redo their SWPPP and implement all changes found in the revised SWMM. Although the revisions may be applicable to existing facilities, new and revised BMPs in the updated SWMM were evaluated within the context of new and redevelopment projects. Wholesale updating to the new manual may provide little gain for significant expense. Therefore, current Permittees are only required to apply BMPs from the new manual if their stormwater discharge is failing to achieve compliance with water quality standards or where redevelopment at the site fits the manual definition. For existing facilities, applying “the applicable technical standards and BMPs” in the permit language means those standards and BMPs that are necessary to achieve compliance with water quality standards and does not necessarily mean all BMPs at the facility.

Local government may adopt stormwater management manual equivalent to Ecology’s manual. Permittees may use equivalent manuals and BMPs. However, a Permittee must be able to demonstrate equivalency when substituting BMPs for those listed in Ecology’s stormwater manual. When the applicable and recommended BMPs in the manual are not adequate to address water quality concerns, the Permittee may implement innovative BMPs that achieve compliance with the proposed permit. The SWPPP must identify the BMPs that are required for a facility, where they are implemented, how they will be maintained, who is responsible for maintenance, and the maintenance schedule.

**Operational Source Control BMPs** include a schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the state. These activities do not require construction of pollution control devices but are very important to a successful SWPPP. Employee training, for instance, is critical to achieving timely and consistent spill response. Pollution prevention is likely to fail if the employees do not understand the importance and objectives of best management practices. Prohibitions might include eliminating field repair work on equipment and certainly would include the elimination of intentional draining of crankcase oil on the ground. Good housekeeping and maintenance schedules help prevent incidents that could result in the release of pollutants. Operational BMPs represent a very cost-effective way to control pollutants and protect the environment. The SWPPP must identify all the operational BMPs and how they are implemented. For example, it will not be sufficient to simply say that employees will be trained. The SWPPP must identify what that training will consist of, when that training will take place, and who is responsible to assure that employee training happens. Chapter 2 of volume 4 in the *Stormwater Management Manual for Western Washington* provides a detailed list of operational source control measures that apply to virtually all industrial activities. The chapter provides the required best management practices for each major category listed in the permit. It includes “recommended additional... BMPs” for good housekeeping, preventative maintenance, and spill prevention and cleanup. The recommended BMPs are not required but may be necessary to achieve discharge compliance with water quality standards.

**Structural Source Control BMPs** include physical, structural, or mechanical devices or facilities intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities (e.g. cleaning out sediment traps), construction of roofs over storage and working areas, and direction of equipment wash water and similar discharges to the sanitary sewer or a dead end sump. Structural source control BMPs are likely to include a capital investment but are cost effective compared to cleaning up pollutants after they have entered stormwater. Structural source control BMPs are also identified in chapter 2 of volume 4 in the *Stormwater Management Manual for Western Washington*. Some of the control measures are specific to an industrial group such as “Commercial Composting” while others apply to general industrial activities such as “Mobil Fueling of Vehicles and Heavy Equipment”.

The previous BMPs are designed to prevent pollutants from entering stormwater to begin with. However, even with a very aggressive and successful program, stormwater may still require treatment to achieve discharge compliance with water quality standards. Treatment BMPs are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands<sup>2</sup>. Volume 5 of the *Stormwater Management Manual for Western Washington* provides information on treatment BMPs including guidance on selecting appropriate treatment BMPs. All facilities are encouraged to review chapter 5 of the SWMM and implement appropriate treatment BMPs. Facilities that are unable to achieve discharge compliance through source control BMPs are required to implement appropriate treatment BMPs. If treatment BMPs are not required, the facility must still include in their SWPPP a description of how they arrived at that conclusion.

Ecology recognizes the need to include specific BMP requirements for stormwater runoff quantity control to protect beneficial water uses, including fish habitat. New facilities and existing facilities undergoing redevelopment are required to implement the requirements for peak runoff rate and volume control identified by volume 1 of the SWMM as applicable to their development. Chapter 3 of volume 3 lists BMPs to accomplish rate and volume control. Existing facilities should also review the requirements of volumes 1 (Minimum Technical Requirements) and chapter 3 of volume 3. Although not required to implement these BMPs, controlling rate and volume of stormwater discharge is very important to the health of the watershed. Existing facilities should identify control measures that they can implement over time to reduce the impact of uncontrolled release of stormwater.

#### *SOLID WASTE PLAN*

**S10. - Solid and Liquid Waste Disposal:** RCW 90.48.080 requires appropriate disposal of any organic or inorganic waste. This includes any wastes that are collected as a result of stormwater treatment. Maintenance of stormwater treatment facilities must include appropriate disposal of collected wastes. They must not be allowed to resuspended and discharged. The plan for appropriate collection and disposal of solid waste must be included in the stormwater pollution prevention plan.

#### *NOTICE OF TERMINATION*

**S11. - Notice of Termination (NOT):** The Permittee of record is responsible for complying with the terms and conditions of the permit unless it is transferred to a new Permittee or permit coverage is terminated. A Permittee may terminate coverage by submitting the official Ecology form for termination of coverage.

#### *PRIMARY ACTIVITY DESIGNATION*

**S12. - Determination of Primary Activity:** The appropriate Standard Industrial Code (SIC) is the one that best describes the industrial activity at the site that is under coverage. For example, if a landfill is owned by a pulp and paper mill, the appropriate SIC is 4953 for the landfill activity, not 2611 for the pulp mill parent company. Since permit conditions can be different for different industrial activities, it is important to make sure that Ecology has the right designation. It is ultimately the Permittee's responsibility to make sure their activity is properly designated and that they have coverage for activities that fall under the industrial stormwater general permit.

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<sup>2</sup>Developing a constructed wetland can be an effective way to treat stormwater. However, wetlands constructed for treatment of stormwater are not eligible for use as compensatory mitigation for authorized impacts to regulated wetland systems.

## *GENERAL CONDITIONS*

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1 requires the Permittee to comply with the terms and conditions of the proposed permit. Condition G2 requires the Permittee to properly operate and maintain all pollution control facilities and systems. Condition G3 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G4 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the proposed permit. Condition G5 specifies conditions that may result in revoking the general permit. Condition G6 specifies conditions for modifying, suspending or terminating the permit. Condition G7 requires the permittee to notify Ecology when facility changes may require modification or revocation of permit coverage. Condition G8 requires the Permittee to comply with more stringent toxic effluent standards or prohibitions established under Section 307(a) of the Clean Water Act. Condition G9 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G10 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G11 notifies the Permittee that additional monitoring requirements may be established by Ecology. Condition G12 requires the payment of permit fees. Condition G13 prohibits the reintroduction of removed substances back into the effluent. Condition G14 allows the Permittee to request their general permit coverage be replaced by an individual permit. Conditions G15 and G16 relate to permit renewal and transfer. Condition G17 describes the penalties for violating permit conditions. Condition G18 requires responsible officials or their designated representatives to sign submittals to Ecology. Condition G19 defines appeal options for the terms and conditions of the general permit and of coverage under the proposed permit by an individual discharger. Condition 20 invokes severability of permit provisions.

## **PERMIT ISSUANCE PROCEDURES**

### *PERMIT MODIFICATIONS*

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

### *RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five (5) years.

## **SMALL BUSINESS ECONOMIC IMPACT STATEMENT (SBEIS)**

Ecology prepared a small business economic impact analysis for the revised permit. The proposed general permit for stormwater discharges associated with industrial activities will have a disproportionate impact on small business. However, there is little mitigation that can be effected without violating requirements of state or federal water pollution control laws. Furthermore, in all the cases analyzed here, compliance costs are no higher than 0.5% of sales, and they only reach as high as that in a scenario with a combination of conservative assumptions. There are, nonetheless, two elements of mitigation in the

permit, one available to all entities, the other to a subset of small businesses. The first is the suspension of sampling requirements for those firms that demonstrate “consistent attainment” as discussed above in the section on “Permit Requirements.” The second is an “Extreme Hardship” waiver.

A copy of the SBEIS may be obtained through the Publications Distribution at the Ecology Lacey office (360) 407-6000 or by download from Ecology’s webpage (<http://www.ecy.wa.gov/pubs/0210011.pdf>).

## REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

2000. NPDES Storm Water Multi-Sector General Permit. Federal Register, V. 65, No. 210, Monday, October 30, 2000.

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

2001. Stormwater Management Manual for Western Washington. Publication Numbers 99-11 through 99-15.

1994. Permit Writer’s Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

## APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

### **Public Workshops/ Public Hearings/Public Comment:**

Ecology has tentatively determined to reissue the industrial stormwater general permit to industrial activities as identified in the permit, Special Condition S2. Permit Coverage. The proposed permit will revoke and replace the current permit.

Ecology will publish a Public Notice of Draft (PNOD) by April 3, 2002 in the State Register, the Spokesman Review (March 29, 2002), the Seattle Daily Journal of Commerce (March 29, 2002), the Daily Olympian (March 29, 2002), the Bellingham Herald (March 29, 2002), the Vancouver Columbian (April 1, 2002), the Aberdeen Daily World (March 30, 2002), and the Yakima Herald Republic (April 1, 2002) to inform the public that the draft permit and fact sheet are available for review. The notice will also be mailed to those who currently have coverage under the industrial stormwater general permit and those identified as interested parties. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at Ecology's regional offices listed below. They may also be downloaded from the Internet: <http://www.ecy.wa.gov/programs/wq/stormwater/> Written comments should be mailed to:

Keith Johnson  
Water Quality Program  
Department of Ecology  
PO Box 47600  
Olympia, WA 98504-7600

Ecology will also conduct a workshop and public hearing at the following six locations in the state:

May 6, 2002		May 7, 2002	
	Bates Technical College Auditorium – Downtown Campus 1101 S. Yakima Avenue Tacoma, Washington		Department of Social and Health Services The Skagit and Snohomish Rooms 900 E. College Way Mount Vernon, Washington
May 9, 2002		May 10, 2002	
	Spokane County Cooperative Extension Meeting Room B N. 222 Havana Spokane, Washington		Washington State Dept of Ecology Central Regional Office 15 West Yakima Avenue, Suite 200 Yakima, Washington
May 13, 2002		May 14, 2002	
	Washington State Dept of Ecology Northwest Regional Office 3190 - 160 <sup>th</sup> Avenue SE Bellevue, Washington		Department of Social and Health Services DCS Conference Room 5411 East Mill Plain – Town Plaza Mall Vancouver Washington



Any interested party may comment on the draft permit or testify at a public hearing on this draft permit. Written comments must be received by Ecology no later than 5:00 p.m., Friday, May 17, 2002 at the Ecology headquarters' building in Lacey, Washington. Public notice regarding the hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology will consider all oral testimony provided at the public hearings and all written comments received by May 17, 2002. Ecology's response to all significant comments will be available upon request and mailed directly to people expressing an interest in this permit.

This permit and fact sheet are available at Ecology's regional offices:

Southwest Regional Office  
Water Quality Program  
300 Desmond Drive  
Lacey, Washington  
Phone: (360) 407-6279

Northwest Regional Office  
Water Quality Program  
3190 - 160<sup>th</sup> Avenue SE  
Bellevue, Washington  
Phone: (425) 649-7201

Central Regional Office  
Water Quality Program  
15 West Yakima Avenue, Suite 200  
Yakima, Washington  
Phone: (509) 457-7148

Eastern Regional Office  
Water Quality Program  
N. 4601 Monroe, Suite 202  
Spokane, Washington  
Phone: (509) 456-6310

Further information may be obtained by contacting Keith Johnson at Ecology, by phone at (360) 407-6442, by email at [kjoh461@ecy.wa.gov](mailto:kjoh461@ecy.wa.gov), or by writing to the address listed above.

This permit and fact sheet were written by Keith Johnson.

## APPENDIX B--GLOSSARY

**303(d) Listed Waters** – see Waters Listed as Impaired – 303(d).

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**AKART**-- An acronym for “all known, available, and reasonable methods of treatment”.

**Ambient Water Quality**--The existing environmental condition of the water in a receiving water body.

**Ammonia**--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation** --The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>**--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD<sub>5</sub> is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chlorine**--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits. Additional sampling may be conducted.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Continuous Monitoring** --Uninterrupted, unless otherwise noted in the permit.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Major Facility**--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)**--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility**--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Quantitation Level (QL)**-- A calculated value five times the MDL (method detection level).

**Responsible Corporate Officer**-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

**Waters Listed as Impaired, 303(d)**--Listed waters refers to the specific segment of a waterbody listed by the State as required under Section 303(d) of the Clean Water Act. The most current list of impaired waters is the applicable list.

## **APPENDIX C—INDUSTRIAL CATEGORIES**

The following categories of facilities are considered to be engaging in industrial activity subject to stormwater as listed in 40 CFR Subpart 122.26(b)(14), as of July 1, 2000, Code of Federal Regulations.

1. **FACILITIES SUBJECT TO STORMWATER EFFLUENT LIMITATIONS GUIDELINES, or NEW SOURCE PERFORMANCE STANDARDS** specified in 40 CFR Subchapter N, or **TOXIC POLLUTANT EFFLUENT STANDARDS** under 40 CFR Subchapter D (except facilities with toxic pollutant effluent standards which are exempted under category 11 below).
2. **FACILITIES LISTED UNDER THE FOLLOWING STANDARD INDUSTRIAL CLASSIFICATIONS (SIC):**
  - 24 Lumber and Wood Products (except 2434 - Wood Kitchen Cabinets, see Category 11)
  - 26 Paper and Allied Products (except 265 - Paperboard Containers; and 267 - Converted Paper and Paperboard Products, see Category 11)
  - 28 Chemicals and Allied Products (except 283 - Drugs; and 285 Paints, Varnishes, Lacquers, Enamels, and Allied Products, see Category 11)
  - 29 Petroleum and Coal Products, (except 2951 - Asphalt Concrete Plants, must apply for the sand and gravel general permit)
  - 311 Leather Tanning and Finishing
  - 32 Stone, Clay and Glass Products (except 323 - Glass Products made from purchased glass, see category 11) and (except 3273 - Ready-Mixed Concrete, must apply for the sand and gravel general permit)
  - 33 Primary Metals Industries
  - 3441 Fabricated Structural Metal
  - 373 Ship and Boat Building and Repairing
3. **FACILITIES CLASSIFIED AS SICs 10 THROUGH 14** (mineral industry) listed below, including active or inactive mining operations [except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) Subchapter N (Coal Mining Point Source Category: BPT, BAT, BCT Limitations and New Source Performance Standards) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas on noncoal mining operations which have been released from applicable state or federal reclamation requirements after December 17, 1990] and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge stormwater contaminated by contact with or that has come in contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations. Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites

where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

- 10 Metal Mining
  - 12 Coal Mining
  - 13 Oil and Gas Extraction
  - 14 Mining and Quarrying of Nonmetallic Minerals, except Fuels (except 1411 - dimension stone; 1422 - Crushed and Broken Limestone; 1423 - Crushed and Broken Granite; 1429 - Crushed and Broken Stone, Not Elsewhere Classified; 1442 - Construction Sand and Gravel; 1446 - Industrial Sand, 1445 - Kaolin and Ball Clay; 1459 - Clay, Ceramic, and Refractory Minerals, Not Otherwise Classified; 1499 - Miscellaneous Nonmetallic Minerals, Except Fuels; must apply for the sand and gravel general permit)
4. HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES, including those operating under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act (RCRA).
  5. LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS that receive or have received any industrial wastes (waste that is received from any of the facilities described in this appendix) including those subject to regulation under Subtitle D of RCRA.
  6. RECYCLING FACILITIES, facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093.
  7. STEAM ELECTRIC POWER GENERATING FACILITIES, including coal handling sites.
  8. TRANSPORTATION FACILITIES classified under SICs below, which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations, airport deicing operations or which are otherwise identified under one of the other 11 categories of industrial activities listed in this appendix are associated with industrial activity.
    - 40 Railroad Transportation,
    - 41 Local and Interurban Passenger Transportation,
    - 42 Motor Freight Transportation and Warehousing (except 4221 - Farm Product Warehousing and Storage; 4222 Refrigerated Warehousing and Storage; and 4225 - General Warehousing and Storage; see Category 11),
    - 43 United States Postal Service,
    - 44 Water Transportation,
    - 45 Transportation by Air,
    - 5171 Petroleum Bulk Stations and Terminals;

9. TREATMENT WORKS treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the CWA.
10. CONSTRUCTION ACTIVITIES are not covered under the industrial stormwater general permit.
11. FACILITIES UNDER THE FOLLOWING STANDARD INDUSTRIAL CLASSIFICATIONS:
  - 20 Food and Kindred Products
  - 21 Tobacco Products
  - 22 Textile Mill Products
  - 23 Apparel and Other Textile Products
  - 2434 Wood Kitchen Cabinets
  - 25 Furniture and Fixtures
  - 265 Paperboard Containers and Boxes
  - 267 Converted Paper and Paperboard Products
  - 27 Printing, Publishing and Allied Industries
  - 283 Drugs
  - 285 Paints, Varnishes, Lacquers, Enamels, and Allied Products
  - 30 Rubber and Miscellaneous Plastic Products
  - 31 Leather and Leather Products (except 311 - Leather Tanning and Finishing, see Category 2)
  - 323 Glass Products Made of Purchased Glass
  - 34 Fabricated Metal Products (except 3441 - Fabricated Structural Metal, see Category 2)
  - 35 Industrial and Commercial Machinery and Computer Equipment
  - 36 Electronic and Other Electrical Equipment
  - 37 Transportation Equipment (except 373 - Ship and Boat Building and Repair, see Category 2)
  - 38 Measuring, Analyzing, and Controlling Instruments, Photographic, Medical and Optical Goods; Watches and Clocks
  - 39 Miscellaneous Manufacturing Industries
  - 4221 Farm Product Warehousing and Storage
  - 4222 Refrigerated Warehousing and Storage
  - 4225 General Warehousing and Storage.



## APPENDIX D--RESPONSE TO COMMENTS

### COMMENTS AND RESPONSES

Comments have been grouped by issues. Each “Issue” is phrased to capture the intent of similar comments. The numbers in parentheses list those that contributed comments captured by the issue. The numbers refer to the table below that lists all those that provided comments or testimony. Each issue is paired with an Ecology “Response”. The issues are grouped by the part of the permit they refer to (e.g. general comments, S1 – Permit Coverage, etc.)

#### *General*

**Issue:** The permit raises the cost of doing business and is too great a burden for industry to bear. This is primarily a result of the new sampling requirements and protocol (3, 7, 18, 19, 31).

When the government makes new requirements, the government should pay the cost of complying with the requirements. (12, 48).

**Response:** Ecology recognizes that the new sampling and monitoring requirements do have an associated cost. However, the cost is justified because there must be some tangible evidence of how sites are doing. Ecology has made every effort to minimize this impact and still provide information feedback necessary for both the Permittee and Ecology to best focus stormwater management efforts. Ecology will provide workshop opportunities and a sampling guidance document to help Permittees achieve compliance. Although cost is part of the consideration in developing permit requirements, the regulations do not include state funding for Permittees to come into compliance.

**Issue:** Facilities that operate without a permit, including illegal operations, have an unfair economic advantage. They also typically have no environmental ethics. Ecology should take enforcement actions against those that operate without permits. Complying with state regulations should be a competitive advantage not a disadvantage. (3, 4, 6, 19)

**Response:** Ecology agrees that there should be a level playing field and compliance with regulations should be less expensive than noncompliance.

While the permit defines compliance it does not dictate when enforcement actions will be taken. Enforcement actions are determined based on staff resources and risk to the environment. Ecology has taken actions to bring facilities into the permit as they are identified. Ecology can take enforcement actions against unpermitted facilities. Ecology is developing a strategy for the most effective ways to enforce the permit provisions. The issue of unpermitted facilities will be considered and suggestions for a well focused enforcement effort are welcome.

**Issue:** Ecology does not have a strong enough enforcement program to achieve permit compliance. When Ecology does fine a facility for noncompliance, the fine is typically too low, failing to provide adequate incentive for compliance. Ecology should not be in the business of “customer relations” but enforcing compliance. (16, 40)

**Response:** Ecology has spent considerable time developing an agency enforcement strategy that is responsive to environmental risk and overall agency mission. The actual response will vary depending on site-specific circumstances but typically Ecology's first step for facilities that are not achieving compliance will be technical assistance and a listing of steps that must be taken to achieve compliance. This approach is productive and environmentally sound for those facilities that are cooperative and responsive to a technical assistance visit. A failure to cooperate and correct deficiencies will typically result in escalating enforcement actions and ultimately a penalty.

While the permit defines compliance it does not dictate when enforcement actions will be taken or what penalties will be issued. Ecology is committed to defining the most effective options for enforcing permit provisions. Enforcement actions will be designed to assure that the overall objectives of the permit are being met and to focus efforts where environmental risk is greatest.

**Issue:** Although the permit requires compliance with standards, the permit does not allow a clear picture of whether facilities are in compliance with standards. The permit fails to require sufficient documentation and reporting by the Permittees and too little oversight and evaluation by Ecology to assure compliance with standards. (8, 11, 34, 36, 39, 41, 49)

**Response:** Ecology believes that the permit addresses compliance with standards in a productive and directed manner, providing reasonable assurance of compliance with standards. The permit deliberately limits the scope of Permittee reporting and Ecology oversight and evaluation so that attention will be paid where it is most needed. This permit covers nearly 1300 facilities. A reporting requirement that requires just 10 minutes per item to record receipt of the report and file it, would require over 200 hours of staff time. Receipt of reports from all Permittees where each report would require just two hours to read, evaluate and respond would require more than a year of staff time to complete. The commitment of Ecology staff time needs to be directed to where it will do the most good rather than requiring across the board submittals and Ecology review of all Permittee actions. The permit does require the submittal of stormwater sampling results from all Permittees. This is an effective use of resources because this data can be used to determine which facilities require further attention, allowing Ecology to focus its resources where they will do the most good. The permit adequately provides for additional reporting by the Permittee and oversight by Ecology where it is needed.

**Issue:** Ecology needs to require sufficient information from Permittees and those seeking "No Exposure" status to allow the public to provide a meaningful review. This information needs to be easily available and with geographical sorting ability. (21)

**Response:** The permit does require appropriate geographical information about both the facility and the receiving water. Ecology will look at ways to make that information readily available and provide sort capability for key geographical and receiving water information. Ecology does not intend to require photographs or any additional sampling results not already included in the permit.

**Issue:** Stormwater is a major contributor to environmental degradation and the permit fails to go far enough to address this very important issue. We can not wait any longer to aggressively reduce pollutants in stormwater. (5, 9, 11, 14)

**Response:** Ecology agrees that stormwater is a significant contributor of pollutants to waters of the state. The sampling and analysis requirements of the permit are designed to illuminate how industrial activities are or are not contributing to the overall pollution of stormwater. This monitoring will allow for both short term focus and pollution reduction at specific problem sites and more precise long term strategies for addressing stormwater pollution from industrial activities.

**Issue:** During the workshops Ecology said they intended to post monitoring results on the Internet. While this information is subject to public disclosure it should not be posted on the Internet as it could easily result in unwarranted harassment lawsuits. (31, 33)

**Response:** This is a permit implementation issue and does not require any change in permit language. Ecology will consider these comments along with those requesting easy access to useful information before determining exactly what will be posted on the Internet. The use of the Internet is intended provide an efficient means for Ecology to communicate with the public and make commonly requested information available.

**Issue:** The permit is too complex making it very difficult for Permittees to achieve compliance. It also fails to recognize the inherent differences between process water and stormwater. The permit should include more flexibility, base requirements on a cost/benefit analysis, and should rely more on the Permittee exercising reasonable judgment. It is likely to drive Permittees to request an individual permit. (7, 18, 20, 35)

**Response:** Ecology desires a permit that is as easy to understand as possible. The complexity of the issues and industrial activities however, resulted in a lengthy permit that must be read carefully. Ecology does expect to continue providing technical assistance to help Permittees understand and comply with the permit. However, much of the permit has not changed and should not be viewed as new or additional requirements. The stormwater pollution prevention plan has the same basic requirements as before. There is the addition of a monitoring plan and Ecology will provide workshops to help Permittees with that new requirement.

The permit has been revised as possible to avoid language that is specific to process water and not applicable to stormwater (e.g. deletion of general condition G3). However, Ecology does not agree that water quality standards should not apply to stormwater. Ecology also believes the permit applies flexibility where it is appropriate. The permit does require application of the Ecology Stormwater Management Manual or equivalent manual. The best management practices in the manual have received a cost/benefit analysis and do distinguish between essential and optional best management practices.

Although any Permittee can request an individual permit to replace coverage under the general permit, the Permittee must demonstrate why the change is necessary. This will include submission of the Environmental Protection Agency's Form 2F and all information necessary to justify the change. Ecology does not believe that an individual permit will most often be required and the general permit will remain the most appropriate permitting tool for typical industrial activities.

**Issue:** This is an NPDES permit and should not include discharges to ground water. (44)

**Response:** The permit is both an NPDES and state waste discharge permit. State law clearly includes underground waters of the state within Ecology's jurisdiction for regulation.

**Issue:** The permit should include whole effluent toxicity testing (WET) because it is a very important tool in determining compliance with standards. (33)

**Response:** Ecology agrees that WET testing is a valuable tool in determining compliance with standards. In considering the use of WET testing, however, Ecology determined that it would be better to focus on a limited set of parameters initially. This was not intended to preclude the use of WET testing in the future or in any way suggest that WET testing would be inappropriate. Ecology intends to conduct stormwater sampling during the permit term and to do WET testing as part of the analysis. This effort will provide a basis for how WET testing may be applied in the next permit revision.

**Issue:** Ecology should have held at least some hearings in the evening for people that work during the day but would like to provide testimony. (11)

**Response:** At least one evening meeting will be scheduled in the future to allow an opportunity for people that work during the day to provide testimony.

**Issue:** The permit seems to use the terms, "waters of the state", "surface water", and "receiving water" interchangeably and it is unclear if there is any difference in the use of these terms. (33)

**Response:** Waters of the state is the broadest most inclusive term and its use is intended where the full range of all types of surface water and ground water apply. Surface water is used to distinguish waters of the state that are not ground water. Receiving water is used to identify the waters where compliance with standards will be determined.

**Issue:** The federal government, Bureau of Reclamation, maintains water conveyance and storage facilities. There are issues with stormwater discharges to these facilities. The Department of Ecology needs to be involved with the Bureau on how to maintain water quality in these water storage and conveyance systems. (2)

**Response:** Ecology has no disagreement on the need to work collectively to resolve problems. There may be issues of staff time and objectives but the request will be brought up as a permit implementation issue.

**Issue:** A permitted facility should not be held accountable for stormwater originating outside of their area of control (run-on) and running onto their facility. This is a major problem where there are multiple sources contributing to the stormwater and when the other sources are not under permit. Perhaps Ecology should write general permits for drainage basins and include all those activities in the basin that contribute to stormwater contamination. (7, 20)

**Response:** Ecology recognizes the difficult problem of dealing with water quality issues that result from stormwater from outside the control of a permitted entity. The problem is that this is a civil issue and Ecology must regulate based on the discharge from the permitted site. If the run-on is actually contained in a stormwater conveyance system, the permitted facility may only be responsible for their discharge to the conveyance system but if the run-on stormwater is not in a discrete conveyance system, the Permittee likely assumes full responsibility. Ecology is intrigued with the idea of a stormwater general permit for a drainage basin but at this time that does not appear to be an effort that can be supported at current staff levels.

### *Special Condition S1 – Permit Coverage*

**Issue:** Does the permit apply to trucks that are on the road such as when they are stopped at rest area? What about independent truckers that hire their services to other operations? **(26)**

**Response:** Permit coverage under the motor freight transportation and warehousing category does not apply beyond the boundary of the industrial activity. The permit does not apply to the truck once it leaves the permitted site. Likewise, unless the independent trucker is engaged in warehousing as well as trucking, permit coverage does not categorically apply. Transportation facilities only require coverage under this permit if they meet the requirements listed under category 8 as defined in Appendix 1 of the permit. However, if an industrial activity is determined to be a significant contributor of pollutants to stormwater, coverage can be required under S1.E. of the permit.

**Issue:** Since Ecology does not have sufficient staff to investigate and evaluate all applications for “no exposure”, facilities should not be allowed to avoid permit coverage based on “no exposure”. S1.B.1 should be deleted. **(36)**

**Response:** Ecology will offer “no exposure” to facilities that qualify by filling out the form and affirming they have “no exposure”. The majority of facilities that should apply for “no exposure” are in the light industry category and are not currently under permit coverage. The change here is that now they need to apply for “no exposure” and previously they did not have to notify Ecology. If all of these facilities do apply as required by the revised permit, the comment accurately notes that Ecology does not have sufficient staff to investigate all applications. But there now will be a record of those claiming no exposure which is beyond the requirements of the current permit. Ecology will also be able to investigate sites based on screening criteria such as currently under permit, SIC, and public concerns. S1.B.1 will not be deleted.

**Issue:** S1.B.3 should be expanded to make it clear that ground water only discharges, discharges exclusively to sanitary sewer, and discharges as land applications do not require “no exposure”. **(24)**

**Response:** The permit clearly states that only industrial activities that discharge to surface water are categorically required to obtain coverage. The provisions of S1.B. specifically state that ground water only, exclusively to sanitary sewer, and land application are not required to obtain coverage. “No exposure” only applies to those that otherwise require coverage and to add the proposed language would likely make things more confusing rather than less confusing. There will be no change.

**Issue:** Small construction activities, those in the 1 to 5 acre range, should not require additional permit coverage. The industrial stormwater general permit should provide coverage for these activities or at least not exclude it. **(20)**

**Response:** Ecology has not determined how permitting of small construction sites will be handled. Until this issue is resolved it is not appropriate for the industrial stormwater general permit to address the issue. The exclusion will remain but if the general permit for small construction activities provides this option, Ecology will modify the industrial stormwater general permit to accommodate.

**Issue:** The permit should clearly state that all categories included for coverage under the industrial stormwater general permit are eligible for “no exposure”. **(27)**

**Response:** The first paragraph of Special Condition S6. – Conditional “No Exposure” Certificate was modified to clearly state that all categories identified under S1.A. – “Who is Required to Have Coverage...” may be eligible for “no exposure”.

**Issue:** The permit should address whether inactive facilities require coverage. **(27)**

**Response:** S1.A.6. addresses the issue of inactive facilities. It can be logically concluded that an inactive site does not require coverage unless significant materials remain on site and are exposed to stormwater. No permit change.

**Issue:** Does Ecology expect a facility to have permit coverage if it typically discharges all stormwater to ground but could have a discharge to surface water during an exceptional storm? (27)

**Response:** If a facility has an unauthorized discharge to surface water, then they should obtain coverage. Ecology may also require coverage if it is determined that such a discharge may occur.

**Issue:** Special Condition S1.C.6. excludes facilities that have a “control plan” that regulates stormwater discharges in a way that makes the industrial stormwater general permit inappropriate. How would a facility know if such a plan exists, if the permit is inappropriate, and what are these plans? (22, 41)

**Response:** Any facility that is unsure about the applicability of the industrial stormwater general permit should contact Ecology. This provision is included to identify situations such as special requirements for the protection of endangered species or total maximum daily load determinations where the general permit may not be applicable. It was not a result of any specific control plans that limit permit applicability.

**Issue:** Special Condition S1.C.7. excludes facilities that discharge to 303(d) waters unless they can meet the conditions of S3.D. Since that condition provides a compliance schedule for existing facilities that exceed the limit, what does this provision actually preclude? Facilities should not be excluded but should just have to meet the limits or not be permitted at all. (36, 41, 49)

**Response:** This condition applies to new facilities that will not be able to meet water quality standards for the listed parameter at the point of discharge. It is possible that they might still be permitted under an individual permit but the general permit would not be applicable unless they can meet the permit limits. Facilities that fall into a category that requires a permit for stormwater discharge but cannot obtain coverage under the general permit, must apply for an individual permit. No permit change.

**Issue:** Special Condition S1.D.1, “Modification of Permit Coverage” defines when a Permittee must submit a modification of coverage. It is unclear however how you determine “different” or “increase” as it applies to pollutants. The permit needs to be more clear on how you apply this condition. It is also unclear whether this only applies to modification of a mixing zone or adding a mixing zone as well. (20, 45, 49)

**Response:** Ecology agrees that this provision should be revised. The revised language appears under the section “Changes to the Final Draft Permit”. The permit defines the term “significant amount” to be an amount that is amenable to prevention or treatment or would cause a water quality violation. The permit was revised to include significant amount as the threshold on when a change in pollutants requires modification of coverage. The Permittee will be responsible for making that determination but if in doubt should contact Ecology. The language was also changed to presume that any additional activity as identified by a new SIC would require modification of coverage.

The permit was revised to clarify that modification of permit coverage is required to “add” a mixing zone as well as modify one. Language was also added to require modification of coverage if a facility is proposing to modify sampling protocol.

**Issue:** Special Condition S1.E., “Coverage for Significant Contributor of Pollutants” should require coverage for facilities discharging to porous soils, shallow aquifers, vulnerable aquifers, or other increased potential for ground water contamination. Who determines when coverage for discharges to ground require coverage? (36, 37, 49)

**Response:** Ecology agrees that there is greater concern about stormwater discharges in areas where there is an increased potential for ground water contamination. However Ecology does not intend to add new mandatory categories to the permit but will continue on a case-by-case basis. The issue of aquifer vulnerability and stormwater discharges will be reviewed as part of implementation of the permit.

**Issue:** Special Condition S1.F., “Coverage for Discharges to Ground Water” is confusing. What discharges to ground require coverage and is there sampling for discharges to ground? Does coverage under the permit meet the requirements for an Underground Injection Control (UIC) permit? (20, 23, 49)

**Response:** S1.F. applies to all facilities with coverage under this permit. Typically that means facilities that also discharge to surface water, although it of course applies to ground water only discharges that are included under “significant contributor of pollutants”. Washington state includes regulations for discharges to ground. The Permittee must manage stormwater to protect ground water as well as surface water. However, the permit does not require sampling and analysis for discharges to ground. Sampling and analysis could be required by Order where there are specific concerns about pollutants such as in the case of “significant contributor of pollutants”. Language was added to include visual monitoring for discharges to ground. Revision also included language that specifically states that this permit does not substitute for UIC permitting.

#### *Special Condition S2 – Coverage Requirements*

**Issue:** Special Condition S2.B.1, “Facilities Currently Under Permit” should also require submission of an updated stormwater pollution prevention plan for existing facilities. Identifying the receiving water may be a very difficult task and providing an appropriate identification uncertain. How do we know what a receiving water is if we discharge to a ditch? Why should we submit information about the receiving water if we already included it in our SWPPP? (3, 4, 19, 40, 44, 49)

**Response:** Precise information about the receiving water is essential for Ecology to determine permit requirements (e.g. discharges to 303(d) listed waters). The permit was also revised to require existing Permittees to certify that they meet basic requirements if they are to receive a mixing zone. Therefore the permit requires all existing Permittees to fill out and return the identification of receiving waterbody and declaration of mixing zone form. Ecology will include instructions for completing the form, along with suggestions on how to identify the receiving waterbody. Ecology will also provide technical assistance to the extent possible. Ecology has recently received a copy of the stormwater pollution prevention plan and is not requesting updates for all facilities. Updates will be requested as needed to address sites where there are identified water quality concerns. Concerns may be based on monitoring results or complaints.

**Issue:** Special Condition S2.B.2., “Facilities with Applications Currently Pending” should require all facilities to submit updated information. It is also unclear what happens if they fail to submit requested information. (36, 40, 49)

**Response:** Ecology used “may” require additional information in the final draft because it was anticipated that some applications might include all the needed information. However, the declaration of mixing zone is new and will not already be submitted. Therefore the permit was changed from “may” be required to “will” be required. Any applicant that does not return the requested information will not receive coverage and their application will be cancelled.

**Issue:** Special Condition S2.B.3, “New Facilities or Existing Facilities Not Under Permit Coverage” defines new facilities and existing facilities.

The permit should include time for facilities identified as “significant contributors” to apply for coverage and come into compliance. (45)

There are problems with the definitions of new facilities and existing facilities and how they are used elsewhere in the permit. (27, 45, 49)

Ecology should evaluate the SWPPP and determine if it is adequate. It is not fair to the Permittee to find out later that their SWPPP is deficient. (23)

Existing facilities should be required to submit stormwater pollution prevention plan (SWPPP) updates to Ecology to keep them current. Existing facilities that are categorically included for permit coverage but failed to obtain coverage should not be allowed a compliance schedule. (36, 39, 41, 49)

**Response:** Since significant contributors are not categorically included for coverage, Ecology agrees that there should be time for them to apply for coverage and come into compliance. This was the intent and the permit was revised to clearly identify this category as an existing facility. Existing facilities have 30 days to apply for coverage once identified by Ecology as requiring coverage and there is a compliance schedule for developing and implementing a SWPPP. The “Compliance with Standards” language of Special Condition S7 also recognizes the compliance schedule identified in this provision (S2.B.3.)

The definition of existing facility was a concern in the final draft. The definition was revised to be any facility that existed prior to the effective date of the revised permit (September 20, 2002). This change should reduce the confusion and provide consistency elsewhere in the permit.

Preparation and implementation of the SWPPP is the Permittee’s responsibility. Ecology has produced a guidance document for preparation of the SWPPP and that document will be updated to reflect changes in the revised permit. However, Ecology is not staffed to review and approve SWPPPs but will typically provide technical assistance including review of the SWPPP during site inspections.

Ecology has recently received a copy of the stormwater pollution prevention plan from most existing facilities and is not requesting updates from all facilities. If there is no copy of a SWPPP on file with Ecology, Ecology will require a SWPPP to be submitted. Updates will be requested as needed to address sites where there are identified water quality concerns. Concerns may be based on monitoring results or complaints. The compliance schedule for existing facilities that have not already had permit coverage appropriately recognizes the difference between a facility that has not started operation and one that is in operation. If Ecology deems an enforcement action is warranted, the facility can be cited for discharging without a permit.

**Issue:** Special Condition S2.B.4. requires a modification of coverage before implementing a significant process change.

The Permittee should be allowed to implement the change and monitor to determine if a modification of coverage is necessary. (20)

Submitting an updated SWPPP should not be limited to facilities with a significant process change. All facilities should be required to submit updated SWPPPs as requested by Ecology or the Public. (41)

**Response:** Ecology strongly disagrees that the Permittee should be allowed to implement a change and then determine if it is a significant process change. The whole intent here is to determine if permit coverage will still be appropriate after the process change and there must be an opportunity for the public to comment. Permittees that are considering a process change must estimate the impact of that



change to determine if it is likely to meet the significant process change language in Special Condition S1.D., “Modification of Coverage.”

Ecology has recently received a copy of the stormwater pollution prevention plan from most existing facilities and is not requesting updates from all facilities. Updates will be requested as needed to address sites where there are identified water quality concerns. This can include concerns expressed by the public.

**Issue:** Special Condition S2.B.5. specifies modification of coverage requirements for adding or modifying a mixing zone.

There should be no need to apply for a mixing zone since WAC 173-201A-100(10) presumes that a mixing zone exists. **(45)**

There should be no allowance for a mixing zone if Ecology does not have sufficient resource to evaluate if a mixing zone is appropriate. Ecology approval should be required for any mixing zone, not just expanded mixing zone. **(36, 41)**

**Response:** Ecology does not agree that WAC 173-201A-100(10) presumes a mixing zone exists. The WAC defines the conditions that must be true if a mixing zone is to be applied. The actual application of a mixing zone is not mandated by the WAC. Ecology has chosen to provide a “standard” mixing zone of defined size for Permittees that can certify that they meet the basic criteria of AKART and environmental protection. An application for coverage that includes this certification will become effective as defined by Special Condition S2.E., “When Does Coverage Begin”. WAC 173-201A-100(10) allows for a mixing zone greater than the “standard” mixing zone size provided in the permit. The permit has included this option as an “expanded” mixing zone. Because of added complexity with increasing the mixing zone size, the permit requires a much more detailed analysis by the Permittee when applying for an expanded mixing zone and review by Ecology before it will be authorized.

**Issue:** Special Condition S2.B.7. (was S2.B.6) requires “light industry” category to either have coverage or apply for “no exposure” if they discharge stormwater to surface water. This is an unrealistic expectation since the light industry category is so large and under the previous permit they were not required to apply if they qualified for “no exposure.” **(49)**

**Response:** Ecology does not disagree that this large group of facilities will be challenged by this requirement. Nonetheless, there is no choice since the Environmental Protection Agency changed the federal regulations. As of March 10, 2003, there is no option for these facilities to just do nothing.

**Issue:** Special Condition S2.C. provides a compliance schedule for developing and implementing the stormwater pollution prevention plan (SWPPP).

The compliance schedule does not provide enough time. Time to prepare the SWPPP is much too short as is the time allotted for capital improvements. Ecology has changed SWPPP requirements and should provide a compliance schedule for all Permittees to update their SWPPP. The compliance schedule should include any facility that is not categorically included but identified by Ecology as a significant contributor. **(25, 29, 42, 44)**

Ecology should not include extension of time language because it only involves the applicant and Ecology. It amounts to allowing a permit modification without public notice and opportunity to appeal. Instead of extensions, Ecology should simply exercise its enforcement discretion. (36, 39, 41)

**Response:** Ecology agrees that time should be provided for Permittees to implement changes in SWPPP requirements. The new permit requires the development and implementation of a monitoring plan and Permittees will have until March 1, 2003 to complete this new requirement. The permit does not identify any other new SWPPP requirements and has only reworded and provided greater clarity on SWPPP requirements. No additional compliance schedule will be provided.

The permit does provide a compliance schedule for existing facilities that were not previously under permit. This includes facilities that are identified by Ecology as “significant contributors.” The compliance schedule establishes a reasonable expectation for aggressively developing and implementing the SWPPP. An aggressive schedule is required because these facilities are discharging stormwater and the environmental risk is real. Ecology also recognizes that with the best of intentions, some facilities may be unable to meet the schedule. Requiring the services of a consultant or obtaining funding to provide for capital improvements may necessarily result in increased time.

The permit could provide longer time frames with no extension possible. Ecology could let projects slide by applying enforcement discretion. Ecology believes the better answer is to stay with current language that includes an aggressive compliance schedule but allows extensions where there is sufficient cause. Written extensions provide a better record than enforcement discretion. Ecology is concerned about providing reasonable opportunity for the public to participate and comment. Public notice is required for existing facilities that should have obtained coverage but did not and any concerns about the implementation schedule should be expressed at that time. Ecology will also consider implementing an Internet page that lists permit applications and Ecology actions.

**Issue:** Special Condition S2.D. defines the public notice requirements. Public notice in a newspaper of general circulation is not adequate public notice. Ecology needs to do more. (21, 36, 39, 41)

**Response:** The notice in a newspaper of general circulation is consistent with the requirement in RCW 90.48.170 and WAC 173-226-130. Ecology is exploring legislation to revise this requirement. Ecology will consider implementing an Internet page that lists permit applications and Ecology actions but this does not require a change to permit language.

**Issue:** Special Condition S2.E. defines when coverage begins after Ecology receives a completed application. Coverage is automatically granted unless Ecology notifies the Permittee that additional time is required or unless it is an application for expanded mixing zone or to change sampling protocol.

Applications that include a standard mixing zone should not be automatically granted. Ecology must evaluate and determine if a standard mixing zone will be allowed. (41)

The permit should require Ecology to notify interested parties as well as Permittees of decisions on issuing permit coverage. (36)

Permit coverage is automatic after 38 days and that is not enough time for Ecology to review the application given Ecology’s limited resources. (34)

**Response:** In order to receive a standard mixing zone the Permittee must certify that they meet the basic requirements for a mixing zone including AKART and protection of beneficial uses of the receiving water. This provides a sufficient basis for issuance of coverage with a standard mixing zone. The permit also includes language that provides for immediate revocation of the mixing zone if an

Ecology site inspection reveals that the Permittee is not meeting the basic requirements for a mixing zone.

As required by the general permit rule, Ecology maintains a list of interested parties with an interest in the general permit. This same process can be adapted to provide notice to interested parties about a specific permit coverage. This can be done as permit implementation and does not require modification of permit language.

The permit language is consistent with the requirements of WAC 173-226-200. It allows sufficient time for Ecology to review the application for completeness and for the public to submit comments about the applicability of permit coverage for a specific site. Ecology can readily suspend automatic coverage if there is cause. Therefore Ecology will keep the language as is. However, language was added to this section to clearly identify the procedure for appealing the applicability of permit coverage to a specific facility.

**Issue:** Special Condition S2.F. includes the requirement to send a copy of the applications of coverage to municipalities subject to the EPA Phase 1 stormwater requirements. Why should it be limited to just these six municipalities? Does the EPA Phase 2 regulations require reporting to Phase 2 communities? Why doesn't Ecology notify all municipalities of applications that apply to their locality? The permit or fact sheet should include a local government contact list. **(12, 20, 36)**

**Response:** The permit includes this reporting requirement because it is required under the EPA Phase 1 stormwater regulations and only applies to applicants within municipalities identified under the EPA Phase 1 regulations. As an implementation issue Ecology will consider the practicality of notifying all municipalities of applications within their jurisdiction. At this time Ecology does not anticipate that it can maintain a contact list of all municipalities as this information tends to require frequent updating to be current. Use of the Internet to list applications and Ecology actions may be sufficient to provide reasonable access to municipalities.

### *Special Condition S3 – Discharge Limitations*

**Issue:** What will happen if stormwater exceeds allowable discharge limits? **(26)**

**Response:** The permit only includes numeric limits for discharges subject to the EPA defined effluent limits for stormwater (non-hazardous waste landfills, hazardous waste landfills, and coal piles) and for discharges to waters listed as impaired (303(d)/TMDL). The permit requires compliance with water quality standards but compliance with standards considers available dilution if a mixing zone is authorized. Benchmark values in the permit are NOT limits.

If an existing Permittee discharges to listed waters and exceeds the allowable concentration for the pollutant(s) of concern, they are required to implement the associated compliance schedule. A “new” facility that discharges to listed waters and exceeds the allowable concentration for the pollutant(s) of concern will be in violation of the permit conditions. Likewise a facility subject to the EPA defined effluent limits is in violation of the permit if they exceed any of the listed limits. The permit does not define Ecology’s response to a violation of the permit limits. That will be determined by the Ecology regional permit manager and enforcement staff.

Exceeding a benchmark value is not a violation of the permit. It also means that the Permittee must continue to monitor for the pollutant. It does mean that the Permittee should evaluate their management practices and try to reduce the level of pollutant in their discharge. It may also mean that Ecology will conduct a site visit to assess the potential violation of water quality standards.

**Issue:** The permit only authorizes the discharge of stormwater and all other discharges to the stormwater system are by default not authorized. The federal Multi-Sector General Permit (MSGP) authorizes specific incidental discharges that are not stormwater (e.g. fire hydrant flushing, irrigation drainage, pavement wash waters where no detergents are used). Ecology should include these incidental discharges as authorized discharges to stormwater systems. **(20, 25, 35, 45, 50)**

**Response:** Ecology does not believe that it is appropriate to authorize these non-stormwater discharges in the industrial stormwater general permit. Typically, discharge to a storm drain system should be avoided and instead should be ground applied if possible. Ecology is not bound by the federal MSGP implementation language and will remain consistent with Ecology’s original (1992, 1995) implementation language authorizing only stormwater discharges.

**Issue:** The permit should specifically identify if deicing/anti-icing fluids at airports are authorized stormwater discharges or process water. Additionally it should specify who is the responsible party for stormwater management associated with these activities. **(25)**

**Response:** The permit does not include the specific BMPs for each industrial activity. These are included by reference to Ecology’s Stormwater Management Manual. Excess deicing/anti-icing fluids at the point of application would be considered process water and must be collected and treated/reused or discharged to sanitary sewer. Additional measures must be taken to minimize the impact of these agents on stormwater discharges. Stormwater monitoring requirements for this industrial group (S4.) are intended to demonstrate how well these BMPs are working. Responsibility for stormwater management depends on who has the day-to-day control of the activity. This may be solely the responsibility of a single

entity or may be a shared responsibility. All SWPPPs of permitted facilities at airport should identify the responsible party for these BMPs and any specific role of the individual permit holder.

**Issue:** S3.B.1 states that discharge of process water is prohibited but the definition of process water is confusing and needs to be rewritten or provide examples to be clear. **(22, 45)**

**Response:** Minor revisions were made to the definition so that it is identical with the EPA definition provided in 40 CFR 122.2. No additional language will be added to the permit. However, the definition applies to the act of processing or manufacturing. Water, including stormwater, that comes

into contact with the activity of manufacturing or processing is process water. If manufacturing or processing is exposed to stormwater then that portion of the stormwater at the site that comes into direct contact with materials at the point where manufacturing/processing is taking place, is process water. “During manufacturing, processing” is key to distinguishing between process water and stormwater. Stormwater in contact with raw materials and finished product is not process water unless the contact is during manufacturing/processing.

**Issue:** The permit sets limits for the pollutants of concern in 303(d) listed waters and when applicable for waters subject to a TMDL determination. Mixing zones are not allowed for the 303(d) listed pollutants but a compliance schedule is authorized for existing facilities that exceed the “end-of-pipe” limits for listed pollutants.

The permit illegally applies a compliance schedule and fails to require compliance with standards for Permittee’s that discharge to listed waters. No compliance schedule should be authorized or at the most, it should allow only 3 years to come into compliance. Even if the compliance schedule were applicable here, the proposed schedule fails to fulfill the minimum requirements of a compliance schedule such as Ecology selected or approved BMPs. The schedule does not even include an end date. **(5, 8, 11, 21, 34, 36, 39, 40, 41)**

The permit fails to allow consideration of a mixing zone as authorized by state and federal regulations when considering discharges to listed waters. Ecology’s determination not to allow a mixing zone is not supported by WAC 173-201A-060 and -100. The compliance schedule requires actions that should not be required unless stipulated by a total maximum daily load (TMDL) determination. There is no legal basis for such severe limitations and the permit should be revised to eliminate “end-of-pipe” limits for 303(d) listed pollutants. Additionally the whole concept of standards and compliance is based on process water and does not apply well to stormwater which is erratic and unpredictable in timing, intensity, duration, and pollutant characteristics. **(18, 20, 23, 29, 30, 35, 45)**

If there is going to be a compliance schedule there should be reporting to demonstrate compliance with the schedule. **(22, 41, 49)**

The compliance schedule fails to provide a way out of the schedule if the Permittee comes into compliance. **(18, 20, 35)**

The permit does not clearly define when a discharge is considered a discharge to an impaired water. Does it include tributaries to the listed segment? Does it include indirect discharges via a municipal separate stormwater conveyance system? What about a roadside ditch? (24, 45)

Why do facilities that are required to monitor for listed pollutants also have to monitor for zinc, turbidity, pH, oil & grease? What is the relevance of monitoring for pollutants that are not listed? (32)

What does compliance with a TMDL determination mean if the determination does not mention stormwater? How can you demonstrate compliance with the Clean Water Act? (41)

Requirements to comply with a TMDL determination should only be applicable where they have been identified by a Detailed Implementation Plan and that plan is part of the permit. Requirements developed after permit issuance should not be applicable until the next permit revision or through permit modification. (53)

The exclusion of fecal coliform makes no sense because any industrial site has some potential source of fecal contamination. (20)

The exclusion language for temperature and fecal coliform should be repeated with each table of Effluent Limitation for Impaired Waters. (22)

**Response:** Federal regulations require Ecology to identify and list waters that are impaired and to address this impairment as possible through a total maximum daily load (TMDL) determination that allocates pollutant loading to sources. Load allocation along with the detailed implementation plan are all designed to achieve water quality standards in the impaired water and to protect beneficial uses. TMDLs take time to develop and often there is no completed TMDL for a listed water. The listing process is separate from the discharge permitting process. The listing process includes opportunity for public comment and review by the EPA. It is the obligation of the discharge permitting process to incorporate permit conditions consistent with protection of listed waters and TMDL determinations.

Washington state law requires that discharges must be conditioned to protect beneficial uses of the receiving water. Impaired waters are by definition waters where beneficial uses are in jeopardy. Data have been collected that show an exceedence of water quality standards in the receiving water, an exceedence of sediment quality standards in the sediment, or an exceedence of human health criteria for consumption of aquatic organisms. To protect beneficial uses, the permit includes limits for discharges to impaired waters. Discharges to water where there is a completed TMDL must be consistent with applicable requirements in the TMDL determination and detailed implementation plan. Discharges to listed water that have no TMDL must not exceed water quality standards for the listed pollutants. Limits are not set for waters listed for sediment or tissue (see next issue/response).

A mixing zone can not be applied for pollutants of concern in listed waters. The purpose of a mixing zone is to allow consideration of available dilution in the determination of compliance with water quality standards. Federal regulations direct the permitting authority to consider dilution of the effluent in the receiving water where appropriate. State law allows permits to include mixing zones but not if there is “reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body,...” Since water quality listings are based on data that demonstrate an exceedence of water quality-based standards in the receiving water, it must be assumed that at times, no dilution is available because the receiving water already exceeds water quality standards. Therefore it would not be appropriate to consider dilution of effluent in impaired receiving waters for the pollutants of concern. Mixing zones are not applicable for the pollutants of concern because the listing clearly indicates that there is potential to diminish habitat and interfere with beneficial uses.

Federal regulations clearly prohibit issuing a discharge permit for a new or expanded discharge if it will cause or contribute to a violation of water quality standards (40 CFR 122.4(i)). Therefore the permit requires new discharges or those with a significant process change to comply with water quality standards for the listed pollutant. There is no compliance schedule if a new discharge exceeds limits of listed waters. Where a TMDL is completed, a new discharge can only be authorized under this general permit if it will be consistent with the TMDL determination.

A compliance schedule is an appropriate approach where existing facilities exceed limits for discharges to listed waters. Ecology does not agree that the referenced “3-year limit” applies to a compliance schedule as defined here. Washington state regulations allow a permit to include a schedule for achieving compliance with effluent limits. The previous permit did not include limits for discharges to listed waters and it will take time for existing facilities to assess compliance with limits and then to take corrective measures if they exceed the limits. The permit schedule provides a stepwise approach to assessing, taking action as necessary and then reassessing. Monitoring periods were added to the schedule after each action. Additional permit language was added to allow the Permittee to exit the compliance schedule if monitoring demonstrates consistent attainment of compliance with standards and to require reports to be submitted to Ecology at least annually.

Permit limits for listed waters apply if stormwater discharges to the waterbody at a point within the listed segment/grid. (A listed segment refers to that portion of a waterbody within a defined township/range/section. Where the waterbody is very large like Puget Sound, the listed area is called a grid.) This includes discharges to a stormwater conveyance system that discharges to a listed waterbody segment/grid. Permit limits for listed waters do not apply to discharges to the waterbody outside of the listed segment/grid or to discharges to receiving water that is tributary to the listed water. The permit includes new language under Special Condition S.7., “Compliance With Standards”, that defines the receiving water as distinguished from a stormwater conveyance system. The associated monitoring of listed pollutants is for the purpose of demonstrating compliance with the limits. It is in addition to the base set of pollutants that all Permittees must monitor for.

Ecology agrees that TMDLs that were completed more than a couple years ago often do not mention stormwater as a significant contributor of pollutants. This does not necessarily mean that there is allocation allotted for new discharges of stormwater. Ecology will have to consider the language of each completed TMDL and determine what impact, if any, it may have on coverage for new stormwater discharges. Ecology presumes that stormwater from existing facilities were considered by any completed TMDL. Any applicable load allocation or requirements in a detailed implementation plan should have resulted in an individual stormwater permit or implementation of additional BMPs. Future TMDL determinations should provide greater clarity on the stormwater component. The permit includes the flexibility to accommodate requirements to new or existing facilities as a result of a detailed implementation plan. Such flexibility seems inherently more productive than potentially having to revoke coverage and require an individual permit. Ecology does not intend to include in the permit, other than by reference to impaired waters, a list of all TMDLs and their implementation plans or all listed waters and their pollutants of concern. Ecology does intend to notify Permittees if they are subject to limits or additional requirements as a result of discharging to impaired waters.

The permit excludes temperature from the list of pollutants subject to limits for stormwater discharges to listed waters. It also excludes fecal coliform unless there is an “industrial source”. Industrial source does not include incidental contamination from animals such as birds and mice that are not an “industrial source” and cannot be practicably excluded from the site. Since Ecology will notify Permittees if they are subject to limits based on discharging to impaired waters, there is no significant value in repeating the exclusions with the associated limit tables.



**Issue:** Ecology must not include listings for violations of sediment standards or for “tissue” violations. Ecology has not established how to determine a violation for these media based on effluent samples. (7, 18, 35)

The permit should be revised to indicate that the most current 303(d) listing will apply. This will also require Ecology to notify Permittees if the status changes. (36, 39)

Limits for listed waters should not apply until the 2002 listing becomes final. Permittees should not be required to invest in monitoring when a water segment may be delisted. (35)

**Response:** Ecology is unable at this time to determine a violation of sediment standards or tissue based on an effluent sample. The permit language that sets limits for 303(d) listed waters will apply only to pollutants listed pursuant to water column-based standards. Language was added to Special Condition S4 to require monitoring of total suspended solids (TSS) for discharges to sediment limited waters. No additional monitoring will be required for tissue-listed waters.

Language was added to Special Condition S.7., “Compliance With Standards”, identifying the most current list of listed waters as the applicable list. While this may cause some confusion when new waters are listed and if any listed waters are “delisted”, Ecology assumes the burden of informing Permittees that are affected. There should be minimal impact to the Permittee initially because the “2002” 303(d) listing should be available before stormwater sampling and analysis is initiated by this permit.

**Issue:** Special Condition S3.E. defines how mixing zones will be applied. It includes the criteria that must be met to be eligible, the size limitations of the standard mixing zone, and the expanded mixing zone option.

The permit does not require a sufficient demonstration that a mixing zone is applicable as required by WAC 173-201A-100. A check box certification is not sufficient. Ecology fails to provide reasonable evaluation and oversight to receiving a mixing zone. There is no provision to account for cumulative effects of multiple discharges. The standard mixing zone is too generous and an expanded mixing zone should not even be an option. An expanded mixing zone is not reasonable because Ecology will not be able to adequately determine all the potential impacts. The Permittee should have the burden to prove that they

meet the legal requirements to be eligible for a mixing zone. The general permit should not authorize any mixing zone without thorough Ecology review. (1, 5, 8, 10, 21, 34, 36, 37, 38, 39, 40, 41, 47, 49)

WAC 173-201A-100(10) presumes a mixing zone exists for stormwater discharges and there should be no need to apply for one. Ecology is inventing regulatory language in defining when a mixing zone is applicable. The permit needs to be consistent with state and federal law. The permit fails to specifically identify the “design storm” and does not incorporate the stormwater mixing zone option for storms exceeding the design storm. (18, 30, 45)

**Response:** The permit has addressed the requirements of WAC 173-201A-100, “Mixing Zones” within the context of a general permit. That regulation defines the requirements that must be met to be eligible for a mixing zone and it defines requirements for authorizing a mixing zone in a permit. One of those requirements is that the permit include the size of the mixing zone. The industrial stormwater general permit defines the size of the “standard mixing zone”. The permit incorporates the requirements that must be met to allow exceptions to restrictions on the amount of waterbody available for dilution considerations and overlap with other discharges. The final draft referred to “all appropriate best management practices established for stormwater pollutant control have been applied to the discharge.” This language was revised to more exactly reflect regulation language that all

known available and reasonable methods of prevention, control and treatment (AKART) must be met. Added language specifies the basic components to achieve AKART for this permit. New permit language also provides for automatic revocation of the mixing zone if an Ecology inspection reveals that a site fails to meet the eligibility requirements for a mixing zone.

Ecology believes that the permit adequately addresses the issue of authorizing a mixing zone. The regulation clearly states that a mixing zone is not automatic but must be based on evidence that clearly indicates that it is environmentally acceptable. The permit requires permit applicants to make this demonstration by completing the mixing zone applicability portion of the application for coverage. Existing facilities must make this demonstration by completing the same information on the Identification of Receiving Waterbody and Declaration of Mixing Zone form. Mixing zone applicability is listed in S3.E.1. and lists requirements from the regulations and limits the applicability of mixing zone for impaired waters. Certifying that these conditions are met provides the demonstration Ecology requires to authorize a mixing zone for a site. This level of approach is appropriate under a general permit. The permit includes the safeguard of sampling and analysis. Where monitoring results raise a concern, Ecology can do a more thorough investigation.

Ecology is confused by the reference to inventing regulatory language in defining mixing zone applicability. Requiring AKART, no loss of sensitive or important habitat, and no barrier to the migration or translocation of indigenous organisms are all part of the administrative code for mixing zones. The size of the standard mixing zone takes into consideration the regulatory language that allows for exemption to numeric size criteria in stormwater discharges and traditional application of a mixing zone up to the legal limit for achieving compliance. The standard mixing zone applies the maximum distance of mixing zone that may be authorized for process water discharges without consideration of depth of water. This is the distance that would likely be allowed under an individual permit if necessary to achieve compliance with water quality standards, assuming all other requirements are met (e.g. AKART). Because the administrative code allows for exemption to all numeric size criteria in stormwater discharges, a facility may apply for an even larger mixing zone under the permit provision that allows for an “expanded” mixing zone. Because this provision does not limit the size of the mixing zone, a significant demonstration of environmental compatibility is required.

**Issue:** It is illegal and unacceptable for the permit to allow Permittees to obtain a mixing zone without providing public notice and opportunity to comment and appeal authorization of a mixing zone to an industrial site. What happens if the Permittee certifies that they meet the requirements for a mixing zone but they don’t? What happens if they lose their mixing zone, can it be reinstated? (41)

The law requires that all known available and reasonable methods of prevention, control and treatment (AKART) be applied before a mixing zone can be authorized. Does this equate to the permits requirement for all applicable best management practices (BMPs)? (20)

**Response:** The permit does not require existing facilities to modify coverage in order to qualify for a mixing zone. The permit does require existing facilities to complete a form that identifies what “receiving water” they discharge to. A mixing zone request has been added to the form and permit language added to require completion of this section to receive a mixing zone. The Permittee must certify that they have implemented AKART and meet the other conditions required for mixing zone eligibility. AKART language has been added to the permit. Concerned citizens can address the applicability of a mixing zone for a specific site by appealing permit applicability to a specific existing facility within thirty (30) days after the permit becomes effective. Mixing zones are automatically revoked if a site inspection reveals that they do not comply with the mixing zone eligibility requirements listed in the permit. Once revoked, a facility would have to submit a

modification of coverage to receive a mixing zone. Such a modification would almost certainly require a site visit verification before it would be accepted.

Permit language was added to clarify what is AKART under this permit. Although it does not list specific BMPs it does require a complete and implemented stormwater pollution prevention plan and all BMPs required for an industrial activity by Ecology's stormwater management manual.

**Issue:** How would the mixing zone apply to something like a man-made ditch such as a drainage ditch? Does it fit in the category of "other" and if so what does that mean? (51)

How is a mixing zone defined if the stormwater discharge is to a municipal stormwater conveyance system? (22)

**Response:** A site-specific consideration will have to be made to determine how a mixing zone might apply to a man-made ditch or other waterbody. If the ditch functions like a stream, stream/river mixing zone is likely to apply. If the ditch is more like a pond, the lakes mixing zone would likely apply. If the discharge is to a stormwater conveyance system, it will be the receiving water for that conveyance system that defines the mixing zone. Language was added to the permit to define "receiving water" versus "stormwater conveyance system". A "drainage system" would not be a stormwater conveyance system even though it may also convey stormwater.

**Issue:** The permit requires facilities to manage stormwater to prevent the discharge of petroleum as identified by an oil sheen and floating materials. The permit should define the size threshold for floating material. A "sheen" is an unreasonable threshold as it can result from natural products as well as petroleum and is subjective in nature. (20, 45)

Ecology should use the word "oil" instead of petroleum and include both processed, natural and synthetic as well as oil-containing products in this permit condition. (42)

**Response:** Ecology does not agree that this somewhat subjective permit condition should be removed or defined in specific terms of particle size for floating materials or quantification of oil in an oil sheen. The focus should be on what the intent of this provision is, an evaluation of site management based on visual evidence of oil sheen and floating material. Evidence of oil sheen should result in determining the probable source of the oil and management practices to control that source. The same applies to floating debris.

Ecology does agree that "petroleum products" does not define the intent as well as "synthetic, natural or processed oil or oil-containing products" and revised the permit accordingly.

#### *Special Condition S4 – Monitoring Requirements*

**Issue:** Groundwater dischargers should not be required to monitor for the same pollutants as is required for discharges to surface water. (23, 25)

**Response:** Ecology agrees that groundwater discharges only should require sampling if specific sampling requirements are defined in an Order issued by Ecology. This was the intent of the draft permit but additional language has been added to make it more clear.

**Issue:** Facilities that discharge from a detention/retention ponds should not be subject to sampling in the first hour of discharge. It is also unclear why facilities with ponds should be subject to the 0.1 inch rainfall event or 24 hours without precipitation. (13, 15, 32)

**Response:** While detention/retention ponds can result in a homogenous stormwater discharge where the sampling protocol makes less sense, this is not certain. Systems subject to "flow through" for instance

might still function more like a direct discharge. For consistency, Ecology does not intend to change the basic sampling protocol. Ecology did add an option that allows Permittees to offer a better sampling protocol as a modification of coverage. Modification of sampling protocol must demonstrate that the change will result in improved stormwater sampling for the site.

**Issue:** Limiting sampling to the first hour of discharge is too restrictive and doesn't recognize business realities. If you sample in the first hour you will not know if it is a 0.1 inch rainfall event. If you sample and you don't meet the rainfall amount, you have wasted time and money. How do you know if there was enough rain at your location? Sampling in the first hour is not representative of the discharge, particularly so when it is a grab sample. It is understood that "first flush" does not exist in the Pacific Northwest. The permit should not limit sampling to only grab samples. Time-proportional and flow-proportional sampling are better and should not be disallowed. There seems to be an inconsistency between the requirement to take a grab sample and the requirement to take a representative sample. The sampling protocol is overly complex and will cost too much to follow. The permit should just require the Permittee to capture a sample during the first significant rain event of each quarter and not consider the "first flush" effect. Companies/municipalities with multiple permitted locations and/or multiple sample points will have difficulty meeting the sampling protocol particularly in the 3<sup>rd</sup> quarter when there are limited number of rain events. A company would have to be staffed 24 hours a day, 7 days a week to assure getting a sample within the first hour of discharge. How do you determine the first hour of discharge if there is a base flow in the stormwater system and more or less constant discharge? Quarterly sampling is excessive and it should be changed to semi-annual. Reporting should be changed to annual reporting. The sampling protocol should be a goal not a requirement. (3, 4, 18, 19, 20, 22, 26, 29, 31, 32, 35, 42, 43, 44, 45, 49, 51, 53)

**Response:** The goal of stormwater sampling is to capture a stormwater sample with the highest odds of a snapshot of stormwater from a site at its worst. The permit will retain the language that requires monitoring within the first hour of discharge. After reviewing different options this still represents the option that is easy to understand and follow, and likely to catch the "worst case" level of pollutants. Storm intensity might be a better option but it is much harder to describe and would be more difficult for Permittees to implement. Multiple samples throughout a storm might be desirable but the possible benefit is insufficient to justify the significant increase in cost and complexity of sampling. There will be additional information on this when Ecology completes the stormwater sampling guidance document. While Ecology recognizes that it will take a significant level of effort for businesses to comply with this requirement, the effort is justified by the very real problem of stormwater pollution and the need for data to begin to understand how much specific sites and industrial activities in general contribute to stormwater pollution. The sampling protocol provides basic sampling criteria designed to make stormwater data as useful as possible.

Ecology agrees that time-proportional and flow-proportional sampling should be allowed and language was added to include these options. The permit was also revised to allow a Permittee to develop an alternative sampling protocol. The alternative protocol must be submitted as a modification of permit coverage and requires Ecology's approval to be accepted. An alternative sampling protocol must demonstrate that it will result in data of similar or superior quality to the protocol listed in the permit. Sampling must focus on catching "worst case" levels of pollutants in the stormwater discharge.

When completed, the stormwater sampling guidance will provide useful information on when and how to take a stormwater sample. It should help alleviate concerns on how to comply with the 0.1 inches of rain in 24-hour criterion. Ecology does not require the Permittee to measure the amount of rain at their site in order to determine compliance with the 0.1 inch of rain in 24-hours. If there is a rain event of sufficient intensity that it generates a lot of stormwater discharge, the Permittee will typically be able to assume that a sample in the first hour of discharge will meet protocol. The permit

allows the Permittee to submit sample results even if one or more criteria of the protocol are not met. The Permittee must explain the deviation from protocol and why it occurred. While deviation from protocol would not be acceptable on an ongoing basis, Ecology would not expect to take any enforcement action based on an isolated event. The emphasis is on consistently getting a good stormwater sample each quarter and providing tangible evidence of how clean or dirty the stormwater discharge is.

If there is “base flow” in the stormwater conveyance system, the Permittee may need to sample stormwater as it enters the conveyance system rather than where it discharges to a receiving water. The stormwater sample should be representative of stormwater from industrial activities without influence from ground water infiltration. In any case, the first hour of discharge criterion refers to discharge of stormwater and the Permittee must be able to discern between a discharge resulting from stormwater and a base flow discharge.

Sampling is conducted quarterly and monitoring results must be received by Ecology at the close of each quarter. Ecology does not agree that annual reporting would be better. Annual reporting increases the workload for Ecology by focusing all the attention on one annual submittal. It increases the potential for Permittees to lose or misplace results or to forget to submit the results altogether. Ecology does not believe that a quarterly submittal of monitoring results poses any significant increase in burden to the Permittee over annual reporting and quarterly submittal provides more timely information.

Ecology does not agree that the sampling protocol should be expressed as a monitoring goal. As a requirement, the protocol represents the expectation that the Permittee will sample according to the criteria but as a goal it would not carry the same expectation. Since sampling and analysis is a critical component of the revised permit, it is important that the protocol be a requirement. As previously stated, Ecology recognizes that sometimes a Permittee may need to submit results that fail to meet one or more criteria. Applying enforcement discretion provides any needed flexibility on complying with sampling protocol.

Companies or municipalities that have several permitted facilities at divergent locations may find it difficult to monitor all locations by the same staff person. Under these conditions it may be necessary to expand the pollution prevention team to include an on-site person at each location that can take samples under the direction of the primary environmental compliance staff person. Where there are limited opportunities to take a qualifying sample, such as during the summer drought, having an on-site person that can take the sample may be critical.

The permit does not require sampling outside of business hours. In eastern Washington or in western Washington during the summer drought, this could mean no opportunity to take a sample during the entire quarter. It is not a permit violation to take no sample because there is no qualifying storm event. The Permittee must file a report and must identify that there was no discharge to sample.

**Issue:** An antecedent event of 24 hours with no discharge does not make sense. Facilities with treatment systems may not even have a discharge within the first hour of a storm. There may also be long periods when there is no rain but there is still a discharge, making the 24 hours of no discharge problematic. (20, 32, 35, 45, 53)

**Response:** Ecology agrees that the 24 hours of no discharge before a valid storm event is misstated. The intent is to have a 24-hour dry period and the permit was changed from 24 hours of “no discharge” to “no measurable precipitation”.

The permit does not require a sample to be taken within the first hour after a storm begins. It requires that the sample be taken within the first hour after a discharge begins. If treatment systems such as a

bioswale soak up all the moisture and there is no discharge, there is no sample to be taken and no violation of permit. The permit only requires sampling if there is a discharge.

**Issue:** There should be no delay in sampling. The permit should require that sampling begin as soon as the permit becomes final. **(36, 41)**

The air transportation monitoring should begin in December 2002. **(41)**

There should be 72 hours of no rain prior to a qualifying storm event, not 24 hours. The data should capture first flush effects and 24 hours is insufficient. The permit should be consistent with the fact sheet which says it will be a 72-hour period. **(36, 40)**

**Response:** The purpose of sampling is to gather the best data we can about the quality of stormwater discharges. There is a great advantage in allowing Permittees and Ecology to have a reasonable time to implement this new provision. Ecology needs time just to properly set up the database so that the correct receiving water is identified and applicable monitoring requirements identified. Permittees need time to prepare a monitoring plan, identify and contract with a laboratory, establish sampling procedures, and budget for this activity. Providing time to proceed in an orderly and productive fashion is reasonable and will increase the value of the data that will be submitted. Therefore the permit will include a six-month delay in implementation of stormwater sampling. This will apply to the air transportation industry sampling as well.

The 72 hours of no precipitation is from the EPA guidance on stormwater sampling. The EPA guidance was not developed for Washington state but was a national document. It does not recognize the weather patterns of the Pacific Northwest. 72 hours would unreasonably restrict the number of qualifying storms that may be sampled during the wet time of the year in western Washington. A review of climatologically data suggests that it is necessary to reduce the antecedent no precipitation to 24 hours if there is to be reasonable opportunity for Permittees to comply with this protocol and achieve quarterly samples. Ecology is confused about the referenced inconsistency with the fact sheet. The section of the fact sheet that discusses monitoring requirements states that the permit will use an antecedent 24-hour “dry” period for the reasons stated above.

**Issue:** What does the permit mean by “business hours”? If we have a skeleton crew at night for maintenance activities does that mean we must sample at night? If a site is inactive and unstaffed, sampling should not be required. Sampling after dark is unsafe. The permit should restrict sampling to daylight hours. (20, 29, 44)

**Response:** Ecology did not intend “business hours” to include any time there is an employee present but did intend it to include those hours and days when the site is staffed to conduct the industrial activity that is under permit. A definition of “Regular Business Hours” was added to the permit definition section. Language was also added to the permit to address the issue of “inactive and unstaffed”. It does require notification to Ecology but typically no sampling would be required.

Ecology does not expect sampling to be conducted at the risk of personal safety. While the permit does not try to list all the conditions that may be unsafe for sampling, the Permittee should include in their monitoring plan how they will meet sampling requirements in a safe manner. This should include any employee training that may be necessary and if daylight is required, that should be included.

**Issue:** Stormwater discharges from office buildings and parking lots are categorically exempted from stormwater permit requirements. The monitoring provision, S4, should specifically exclude these areas from monitoring requirements. (45)

**Response:** The monitoring requirements are for authorized discharges subject to the permit. Stormwater discharges from office buildings and parking lots that do not commingle with stormwater water from areas associated with industrial activity subject to the permit do not require monitoring unless specifically included as a “significant contributor of pollutants”. Ecology does not believe it is necessary to add additional language in S4.

**Issue:** We do not understand what difference the volume of discharge makes as long as we are sampling the discharge that will have the highest concentrations of pollutants. Ecology should eliminate the “similar volume” requirement for considering how many discharge points must be sampled. (35, 45)

**Response:** Ecology agrees and has revised the permit. Language was added to specify that there must be documentation in the SWPPP to support the selection of which discharge to monitor and it must discuss all discharge points and include the relative contribution (volume) of stormwater discharge from each.

**Issue:** The fact sheet states that, “Failure to sample during a quarter where appropriate rainfall events occurred is a permit violation.” The permit does not have this language which is good because a qualifying storm may not result in a discharge that can be sampled. (29)

**Response:** The fact sheet was not as clear as it should have been. However, Permittees are responsible for obtaining a sample when there is opportunity. The point is that it would not be acceptable to be inflexible about when you sample a storm. It would not be acceptable to only sample on the fourth Tuesday of each month and report “no discharge” if there is not a qualifying storm on that day when there were qualifying storms on other days during the month. It would be acceptable to report no discharge if the only qualifying storm(s) in a

quarter happened outside of business hours. Ecology will expect a good faith effort to obtain an acceptable stormwater sample each quarter and if no sample is taken, documentation of why.

**Issue:** The protocol should include a storm event range with an upper boundary as well as the lower boundary for amount of stormwater in a 24-hour period. It should be “at least 0.1 inches in a 24-hour period but not more than the 24-hour design storm”.

**Response:** Ecology does not agree that there must be an upper boundary. Sampling is not required where there are safety concerns related to the intensity of a storm event but taking a sample within the first hour of discharge of a very intense storm will be acceptable. The development of the stormwater sampling guidance document will consider all the variables and define optimum conditions for taking a sample. Storm intensity will be one of the variables considered.

**Issue:** The permit should reference the forthcoming stormwater sampling guidance document. Guidance should include ways for the Permittee to obtain weather conditions and the permit should require reporting of weather data during the time the sample was taken. **(36)**

**Response:** The sampling guidance document has not been completed and therefore not subject to review in connection with this permit. Ecology has therefore decided not to reference the document. When completed, however, it will complement the permit sampling requirements. Ecology does not intend to require submission of weather data during sampling along with sampling results. This would add a level of complexity and time that is not warranted at this time.

**Issue:** Why are we required to sample within the first hour of discharge when as the fact sheet explains, acute toxicity is based on 3-hour exposure. What is the meaning of “representative sample”? It makes very little sense to use water quality standards that were designed for constant process water discharge and apply them to stormwater which is intermittent and does not behave at all like a constant process water discharge. **(7, 18, 20, 29)**

**Response:** For the purpose of this permit, “representative sample” is intended to represent the greatest potential for toxicity in stormwater discharges. As has been noted in this comment and many other comments, determining if there is toxicity in the receiving water as a result of stormwater discharges is a fairly complex issue. It is impractical in a general permit like the industrial stormwater general permit to consider all the factors for all the sites. Therefore the permit includes monitoring with a sampling protocol intended to approximate the greatest potential toxicity in the stormwater discharges. Ecology does not agree that water quality standards are the issue. The issue is how we determine if a stormwater discharge exceeds those standards. Focusing on the most toxic episodes makes sense because it will allow Ecology to prioritize site-specific review and spend time on sites that have the greatest potential to cause a water quality violation. A site investigation will typically be required to determine if potentially toxic discharges are actually resulting in a water quality violation.

**Issue:** Sampling as close to the point of discharge as practical may not make sense (e.g. closed systems and discharges to areas with tidal influence). The permit should be less prescriptive. **(20)**

**Response:** Ecology believes the permit is sufficiently flexible on where the sample should be taken. The permit language, “as close to the point of discharge as reasonably practical” allows the Permittee to determine what is workable at their site. If sampling where there is tidal influence is not practical and there is another sample point that is practical and representative of the stormwater from the site, the Permittee is clearly allowed to sample outside of the area of tidal influence. The permit allows for common sense on this issue. The Permittee must document where they will sample in the SWPPP monitoring plan and include a discussion of why the sample location was chosen. This is not overly prescriptive.

**Issue:** We believe there is a real problem with sampling stormwater where it is sheet flow and do not have a “discrete outfall”. What does Ecology intend to do in these circumstances? We also do not understand why Ecology has determined to apply sampling and analysis to all facilities. There should be a determination that some sites pose no significant risk and should not be subject to this economic burden. **(25)**



Facilities should not be responsible for the pollutants in stormwater that runs onto their site from other sources. **(20, 25, 45)**

**Response:** Ecology agrees that obtaining a good stormwater sample from sheet flow will be a significant challenge. Ecology will provide guidance on solving this problem. All facilities are required to conduct sampling and analysis for at least 8 consecutive quarters. Ecology found no satisfactory basis to remove industrial groups or sites from sampling requirements at this time (other than “no exposure”). Ecology will review this position in the next permit cycle, in part based on the data gathered under this permit. Ecology will also conduct independent stormwater sampling and analysis that may help address this issue. The economic burden was kept to a minimum but applied to all facilities (except potentially those that meet the legal test of “extreme hardship fee reduction”)

Ecology appreciates the apparent unfairness of holding a Permittee responsible for stormwater pollution from outside of their control. However, run-on stormwater is a civil issue and once the stormwater is on a permitted site, the Permittee is responsible for the quality of the discharge from their site. There is no provision to separate out the influence, be it good or bad, of stormwater that flows onto the permitted facility. This should not be confused with a defined stormwater conveyance system that serves a larger area and passes through a facility. In that case, the facility is only responsible for their discharge to the conveyance system.

**Issue:** The permit is missing a word (likely “before”) in the requirement for where to sample discharge from coal piles. **(41)**

**Response:** Ecology appreciates the assistance in catching this error. The permit has been revised to include the word “before”.

**Issue:** Monitoring quarters should be changed so that the 3 driest months, July/August/ September are not all in the same quarter. This will make it very difficult to get a sample in that quarter. **(35)**

**Response:** Ecology agrees that the typical summer drought of the Pacific Northwest does complicate sampling. While the suggestion of changing quarters from calendar-based to quarters defined to break up the 3 driest months into different quarters has merit, Ecology is concerned that it would also add confusion. The permit will retain the calendar-based definition of quarters.

**Issue:** Sampling should not be required for facilities that demonstrate compliance with implementation of BMPs. If sampling is required, reporting to Ecology should only be required when results exceed the limits. **(32)**

**Response:** Part of the purpose of sampling is to provide another check on how well the permit is protecting water quality. There is the assumption that implementing best management practices (BMPs) will be protective. Stormwater sampling and analysis is included in the permit to add greater certainty and to test that assumption. Ecology is interested in data that is below benchmarks as well as above benchmarks in order to make a more complete analysis of the effectiveness of the permit in protecting water quality. Ecology expects to do independent testing on selected sites and will be looking at both sites that exceed benchmarks and are below benchmarks. Sampling and reporting will be required by all Permittees during this permit cycle.

**Issue:** Four quarters of consistent attainment should be enough to suspend additional monitoring. Eight quarters is overly burdensome for no good purpose. **(32)**

Benchmarks for turbidity and pH should not be a set value but should be related to the background conditions of the receiving water. It is unfair for a facility that discharge to low pH waters or naturally turbid waters to be held to the benchmark values in the permit. **(29)**

Compliance with water quality standards at the edge of the mixing zone should be another way to demonstrate consistent attainment. This should not be limited to benchmarks only. **(33)**

**Response:** The minimum of eight stormwater samples was carefully arrived at. It represents at least two years of sampling and three to four samples each year. Sampling for more than one year reduces the probability of results that are skewed as a result of unusual rainfall patterns such as drought. Three to four samples a year are the minimal amount necessary to provide reasonably representative monitoring. Eight samples are just enough to begin to have some statistical significance.

In order to account for background conditions, the permit would have to include monitoring of the receiving water. That would add greater complexity to the permit, additional sampling burden on the Permittee, and increased workload to track and analyze the data. Since benchmarks are not effluent limits, Ecology finds no compelling reason to implement the requested change. There are trade offs in site-specific versus general conditions and a general permit must apply general conditions to the extent possible in order to be applicable to the larger group.

Compliance with water quality standards at the edge of the mixing zone is required to protect the water quality in the receiving water. It is not a useful means to evaluate the need for ongoing monitoring. It is not useful because it would require significant additional information to determine compliance and it would likely require additional samples to make a “reasonable potential” determination. The additional monitoring would include the volume of stormwater discharge, the volume of water in the receiving water, the background concentration of pollutants in the receiving water, and the mixing characteristics of the discharge in the receiving water. The benchmark approach has high probability of being protective of water quality standards and is easily implemented. The edge of mixing zone approach is very complex and ill suited to a general permit approach.

**Issue:** The permit should not allow suspension or reduction of sampling based on “extreme hardship fee reduction. Ecology will have no reasonable way to determine that there is no “significant” environmental risk. (40, 49)

Environmental risk assessment should include a review of the literature, maps, soils, ESA species, ground water concerns, wetland, and any other site conditions that may be a concern. (36)

**Response:** “Extreme hardship fee reduction” is defined in Ecology’s fee rule, WAC 173-224-090, Small business fee reduction. This exception will only apply to a very small number of facilities (currently about 10 receive this reduction) and Ecology can manage an evaluation for environmental risk for this limited number of Permittees. There will be no change in permit language. Ecology appreciates the list of risk assessment items. Best professional judgment will be applied to the risk assessment.

**Issue:** The benchmark value for Biochemical Oxygen Demand is too low. Instead of 30 mg/L it should be 100 mg/L. (35, 45)

The benchmark value for Total Phosphorus (TP) should be 2.0 mg/L not 0.5 mg/L. (28)

**Response:** Except for the turbidity benchmark value, all the values are from the EPA multi-sector general permit. Ecology will not consider any revision of these values now but will reconsider them when the permit is reissued in 5 years. The data collected under this permit may provide the basis for such reconsideration. Benchmarks are not limits and exceeding the benchmark does not mean there is a water quality violation. But they will allow us to focus attention on facilities that may be exceeding water quality standards. A review of these facilities could result in revision of the benchmark value in the future or additional guidance on BMPs necessary to achieve benchmark.

Ecology regrets the error in listing the benchmark for TP as 0.5 mg/L. It was correctly identified as 2.0 mg/L in the discussion of Chemical and Allied Products and Food and Kindred Products but was incorrect in the table of benchmark values. The final permit will have the correct value of 2.0 mg/L.

**Issue:** It should be clearly stated that benchmark values are not water quality standards. Facilities that implement a significant process change should have to begin monitoring for attainment anew. (39)

Why are benchmark values used when they don’t represent water quality standards? What is the basis of the turbidity benchmark considering that the standard appears much more restrictive. The permit should clearly state how benchmarks will be used to assess compliance with water quality standards. (36, 40)

What is the basis of 25 NTU for turbidity? The value is very low and will unnecessarily result in compliance risks. It also seems like total suspended solids (TSS) would have been a better indicator of BMP success than turbidity. Background in the receiving water for many sites will be well over 25 NTU during storm events making the benchmark much too restrictive. (29, 35)

There should be no suspension of monitoring. Even though a facility goes for a long time without a problem it does not mean that they will not have a problem. Ongoing sampling is necessary to protect the state’s waters. (37)

The permit should not authorize complete suspension of monitoring based on consistent attainment of benchmark values. Perhaps just reduce the frequency to once a year instead of quarterly. (38)

**Response:** Benchmark is defined in the definition section of the permit and it clearly states that benchmarks are not water quality standards. Ecology agrees that a significant process change should result in new monitoring for attainment of benchmarks. Language was added to the new permit

section S4.B., Exceptions, stating that a significant process change will restart monitoring for consistent attainment of benchmark values.

Benchmark values, except for turbidity, are included in the EPA multi-sector general permit which is essentially equivalent to Ecology's industrial stormwater general permit. They are related to water quality standards in most instances but incorporate assumptions to apply generally to a variety of sites. They are used because they provide a useful basis to terminate monitoring where they indicate good performance and to focus attention on doing better where they indicate poor performance. They represent values that are not likely to cause a water quality violation under most conditions. The turbidity value of 25 NTU is an Ecology derived value. Based on field experience, a discharge of 25 NTU or less is very unlikely to result in a water quality violation. Considering background values are likely to be greater than 0 NTU and there will likely be some available dilution, 25 NTU serves the purpose of a benchmark value for turbidity. Ecology will reassess the use of benchmarks and the values used during the next permit cycle. The data gathered under this permit will be part of this assessment.

Ecology water quality standards include a standard for turbidity but do not include any specific standard for TSS. Turbidity is also a water quality concern and it is related to the success of BMPs. Exceeding the benchmark does not mean there is a water quality violation and therefore it does not, by itself, make a Permittee out of compliance with the permit. It could mean that Ecology will do a site inspection to see if there is a water quality violation and it does mean that the Permittee should consider what actions could be taken to reduce turbidity in their discharge. Turbidity will be retained as a basic parameter.

While there is concern that a facility could drift back into poor management after achieving consistent attainment with benchmark values, eight consecutive quarters is rigorous enough to suspend monitoring for the remainder of this permit. Ecology does envision that the next permit will require a "check-in" with some monitoring for all permittees. The issue will be best addressed after we have collected data under this permit and through Ecology independent investigations of industrial stormwater. The permit will not be changed but will be addressed in the next permit cycle.

**Issue:** Suspension of monitoring for consistent attainment should not be an all or nothing provision. The Permittee should be able to suspend monitoring for any of the parameters they monitor for based on consistent attainment for that parameter independent of values for any other parameter. (42)

**Response:** Ecology agrees that suspension should be allowed independently for each parameter and added language to so indicate.

**Issue:** Benchmarks seem conflicted with water quality standards. If they are not water quality standards but compliance with standards is required, what does it mean if you exceed the benchmark? What does it mean if you do not exceed the benchmark but do exceed water quality standards? Is there a consequence to exceeding benchmark values? (35)

A benchmark for pH of 6.0 to 9.0 is inappropriate. Some receiving waters are naturally below 6.0 and rainfall may also be naturally below 6.0. A pH limit is not acceptable where the rain is very acidic. (13, 43)

**Response:** Benchmarks are intended to reduce confusion. While compliance with standards requires a significant amount of site-specific investigation to determine, benchmarks are straight forward and apply the same to all sites. The benchmark for each pollutant is a reasonably conservative value. That is, it is set low enough that any stormwater discharge that does not exceed that value is very unlikely to result in a water quality violation. A Permittee that has implemented the required BMPs for their industrial activity and is at or below benchmark values has good reason to believe that they are

successfully managing stormwater. If monitoring results exceed benchmark values, a Permittee should review their BMPs and look for additional means to apply source control. The Permittee may also need to consider treatment BMPs. Ecology will review data and use it to help prioritize site visits. Sites which exceed benchmark values are more likely to receive a site inspection by Ecology.

The permit does not include a pH limit for all sites. Only those facilities that discharge to waters that are pH impaired or facilities subject to the EPA effluent guidelines (landfills and coal piles) are subject to effluent limits for pH. The benchmark for pH is appropriate because it will typically be protective of water quality and beneficial uses in the receiving water. Benchmarks are a useful general permit tool because they provide environmental protection without additional site-specific evaluation. Since benchmarks are not effluent limits, this generalized approach is not unreasonable.

**Issue:** Why does the permit include monitoring for hardness as a result of exceeding the benchmark for zinc? Hardness is not a benchmark in the EPA multi-sector general permit. Hardness is not an issue with stormwater management (BMPs) so why is it even included? **(35)**

Airports should not be required to add copper and lead monitoring because of elevated zinc values. While there is evidence that airports may have significant levels of zinc, this does not correlate to elevated levels of copper and lead. **(25)**

The permit requires additional analysis of stormwater samples for copper and lead if two consecutive samples exceed the benchmark for zinc. This is apparently based on Connecticut data and we question the relevance in Washington state. In any event there should be suspension of monitoring based on consistent attainment. (43)

**Response:** Hardness is part of the consideration of metal toxicity and is necessary for determining the potential to cause a water quality violation. As zinc levels exceed benchmark, the potential for exceeding the water quality-based standard in the receiving water increases. The addition of hardness data will help Ecology determine the environmental risk and prioritize site-specific investigations.

Ecology did use the Connecticut data in selecting zinc as the representative metal for monitoring purposes. Ecology will reconsider this decision during the next permit based on data gathered during this permit cycle. Although exceeding the benchmark for zinc does not mean that the discharge will also be high in other metals, there is sufficient correlation to require analysis of lead and copper. Ecology does not intend to exempt any specific industrial activity from this requirement at this time. Language was added to clarify that analysis for the additional metals may be suspended based on consistent attainment.

**Issue:** The permit must unequivocally state that attainment of benchmarks does not necessarily equal compliance with water quality standards. (41)

**Response:** Ecology agrees that benchmarks are not water quality standards and do not necessarily equal compliance with standards. Language was added to the permit to specifically state that benchmarks are not water quality standards and they are not limits. Ecology believes it is better to point to them as indicators and to state the positive indication, “values at or below benchmark are considered unlikely to cause a water quality violation.”

**Issue:** Visual monitoring should be reported to Ecology. There should be an Ecology prescribed form that every Permittee must fill out. Photos should be taken for each visual monitoring. The permit is so lax on the issue of visual monitoring that there is little that can be considered required. (34, 36, 37, 39, 40, 41, 49)

**Response:** Ecology agrees that there should be guidance and a sample form would be very helpful. Ecology intends to produce and distribute a visual monitoring form that provides a check list of items to be included in visual monitoring. But the permit will not require use of this form as Permittees need to customize the monitoring form to fit their site. Photos could be valuable but Ecology does not agree that they are essential and the permit will not require photos to accompany visual monitoring. Ecology does not agree that receiving and filing visual monitoring reports is the best use of Ecology resources. As pointed out in the introduction, these tasks are very time consuming when applied to all Permittees. Instead, Ecology will only require submission of visual reports on a case-by-case basis where there is evidence of potential water quality violations or insufficient implementation of BMPs.

**Issue:** The permit requires that people named in the SWPPP conduct visual monitoring. Does this require a person’s name or is title adequate? (20)

**Response:** The SWPPP requirements of Special Condition S9 include the requirement to have a “pollution prevention team” identified by person or title. This is the applicable provision and either a person’s name or title is acceptable. Whether identified by name or title, the Permittee must be careful to update the SWPPP if the responsible person or position changes.

**Issue:** The visual monitoring requirements requires monitoring of all “discrete outfalls”. Outfalls may or may not be observable by the Permittee and the outfall may include many sources of stormwater besides the stormwater from the permitted industrial activity. The permit must be changed to define

visual monitoring in a way that is reasonable and meaningful. Does the Permittee have to take a grab sample to do visual monitoring?

There should be greater flexibility in requirements for points of discharge that do not require sampling as defined by “representative sampling”. (20, 22)

Dry season monitoring should make allowance for ground water infiltration which should not be considered an illicit discharge. (22)

**Response:** Ecology agrees that the use of “discrete outfalls” is not appropriate for many circumstances. The permit language has been revised to better target the intent of visual monitoring. Permittees must record visual observations at the site where they take a stormwater sample. Visual monitoring of other discharge points may occur at other times. The Permittee must remember that the purpose here is to document the effectiveness of BMPs and make adjustments as necessary. Oil or floating debris entering into a stormwater system that discharges without treatment is not acceptable and occurrences must be documented and actions taken to prevent this contamination of stormwater. Documenting oil going into a collection system that removes oil may be useful but it does not necessarily precipitate an action to identify and remove the source of oil. It does reinforce the importance of taking a stormwater sample after treatment and before discharge to a receiving water. If this is not possible under current treatment configuration, the Permittee needs to consider options that would provide an opportunity to collect a sample.

What should be included in visual monitoring is outlined in the permit but the permit does not dictate the specifics on how this is done. Ecology believes it is not necessary to specify in the permit whether a Permittee must take a grab sample or observe the stormwater from a set distance. Ecology does agree that guidance on conducting visual monitoring is needed (see discussion above on visual monitoring form).

Ecology agrees that ground water infiltration should not be considered an illicit discharge and has revised the permit accordingly.

**Issue:** Visual monitoring is subjective by nature and things such as “discoloration” or “odor” should not be used to evaluate the effectiveness of control measures (BMPs). Empirical evidence should be required to determine if BMPs need to be added or upgraded. The permit requires visual monitoring for suspended solids and oil and grease. These parameters are inappropriate for visual monitoring. (45)

**Response:** Ecology agrees that visual monitoring is subjective but disagrees that subjective assessments are inappropriate. The permit would have to include additional testing and standards to achieve all the empirical evidence necessary to evaluate all the BMPs that may be necessary for stormwater management. Ecology believes the permit correctly limits physical testing to a limited set of parameters and allows a more subjective but common sense approach based on visual monitoring to address the full spectrum of stormwater management. This provides a combination approach that is practical for the Permittee but with reasonable assurance of good stormwater management when applied.

Ecology agrees that suspended solids and oil and grease are not directly observable and has removed them from the list of parameters for visual monitoring. Visible sheen and turbidity are related and suitable to visual monitoring.

**Issue:** The permit must make it clear that visual monitoring must be recorded and signed by a person that is authorized under the permit's signatory requirements. Records must be kept as prescribed by law. (25, 41)

**Response:** Ecology agrees and the permit was revised to make it clear that there must be written documentation, that it must be properly signed, and that it must comply with record keeping requirements.

**Issue:** The permit allows analysis by methods other than those listed in the permit. This seems to leave analysis open to abuse. The wording is unclear. What is meant by "Test methods are the minimum level required."? (41 45)

**Response:** Ecology added language to clearly state that substituted methods must be equivalent or superior and the substitution is by a certified lab. The equivalency statement along with the requirement that this is done by a certified lab should be sufficiently protective. The revised language should also be much more clear on Ecology's intent here which is simply to allow analysis methods that are better than the one required by the permit.

**Issue:** The permit identifies EPA methods 413.1 and 413.2 for oil and grease. These are outdated methods and should not be used. EPA methods 1664 and 1664A should be used instead. (27, 28)

Instead of using the outdated EPA methods for oil and grease, the permit should require a more appropriate measure of petroleum hydrocarbons, the NWTPH(dx) test. (22, 35)

**Response:** Ecology appreciates the correction and would not want anyone to be using the old Freon extraction method. The permit was corrected. Ecology does not intend to go to the more expensive NWTPH test at this time. The oil and grease test is much less expensive and should provide the base level information to meet the purposes of sampling and analysis in this permit. Ecology will conduct independent monitoring with a broad range of parameters including NWTPH to help determine what changes need to be made in the next permit cycle.

**Issue:** The permit requires Permittees that discharge to listed waters to monitor for all the parameters that are listed. In some cases that is a very large list and it would seem that it could be reduced to monitoring for a few indicator parameters. Monitoring should not be required if there is no reason to expect the pollutant to be present. The requirement to monitor for parameters listed for impaired sediment quality should be removed. It would be very costly to monitor for all the listed parameters and there is no purpose since there is no defined connection between effluent concentrations and accumulation in the sediment. The permit should say that monitoring is only required for discharges to the listed segment. (27, 59)



Ecology must be prepared to tell Permittees if they are discharging to a listed waterbody and what pollutants they must monitor for. It is also unclear how you determine if the discharge is to the listed water. Must there be an easily identifiable conveyance system or would proximity be sufficient? Is it Ecology or the Permittee that determines if there is a stormwater discharge subject to the monitoring for discharges to impaired water? If it is Ecology, the permit should specify when the Permittee will be notified. (25, 44, 49)

**Response:** Ecology is not prepared to offer “indicator” parameters or determine when a pollutant will not be present for listed pollutants. Monitoring may demonstrate that “indicator” parameters are a viable option. It may also demonstrate that certain industrial activities have no risk of adding certain pollutants. These issues will be better addressed in the next permit cycle based on data gathered in this permit cycle.

Ecology did remove the requirement to monitor for parameters that may contribute to sediment quality standards. Since Ecology cannot define the connection between effluent concentrations and sedimentation, only monitoring for total suspended solids will be required.

The permit does include a definition for waters listed as impaired and that definition clearly states that it is only the listed segment that applies. No additional language will be added to the body of the permit.

Ecology will notify Permittees of any additional monitoring for pollutants as a result of discharges to listed waters. This response depends in part on receiving the required identification of receiving waterbody and declaration of mixing zone form as required by the permit. Notification by Ecology is an implementation issue and the permit will not specify a specific date but Ecology will respond as quickly as possible after receiving identification of the receiving water.

The discharge to a listed water must be a surface water discharge, that is, it would not include natural underground flow. It would include all manmade stormwater conveyance systems and any identifiable surface flow from the industrial activity to the listed water.

**Issue:** The way the permit reads is sounds like a Permittee would not be required to monitor for TMDL limited pollutants unless the TMDL specifically requires that for stormwater. The permit should require monitoring for any pollutants where a TMDL sets a load allocation or concentration limit regardless of whether stormwater was listed as a significant contributor. (41)

**Response:** Ecology agrees that new dischargers should monitor for any pollutants where a TMDL sets a load allocation or concentration limit. The suggested language revision was made.

**Issue:** The permit only allows suspension of monitoring for listed parameters if analysis consistently shows that the pollutant is not detectable. This is an overly restrictive and pollutant levels that do not demonstrate any reasonable potential to cause or contribute to a water quality violation should be sufficient. There should also be flexibility to demonstrate that stormwater is not related to the problem and monitoring should not be required. The permit would apply zero detect to pH. That does not make sense. (20, 29, 52)

**Response:** Ecology agrees that a pollutant could be detected and still be consistently at a concentration that has no reasonable potential to cause or contribute to a water quality violation. Language was added to the permit to allow this demonstration. Ecology is not prepared at this time to add additional flexibility to remove monitoring based on an

argument that stormwater is not contributing to impairment. This becomes a level of complexity that can not be supported but should be reviewed in the next permit cycle, building on data gathered under this permit.

Ecology agrees that the permit fails to define an appropriate basis for suspending monitoring of pH where monitoring is required because the waters have a pH impairment. Language was added to correct this. The language is slightly different than that used for suspension of pH under benchmark. The range of 6.0 to 9.0 is an appropriate benchmark but would not be applicable to pH impaired waters. Suspension is based on eight consecutive quarters where the pH is does not fall outside of the water quality-based range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine).

**Issue:** Ecology should have been more inclusive in monitoring requirements and should have specified all the parameters identified by the EPA multi-sector general permit (MSGP) for each industrial group. Ecology should include all the parameters of the MSGP for additional metal sampling, timber products and paper industries, chemical and food industries, and the primary metals and salvage/recycling industries. (39)

The Clean Water Act mandates that NPDES permits include sufficient monitoring requirements to determine whether effluent limitations are being violated. It is unclear how the permit meets this requirement, particularly when mixing zones are authorized. (41)

**Response:** A primary objective of revising the industrial stormwater general permit was to provide tangible evidence of how well the permit requirements were working in terms of managing stormwater for the protection of the state's waters. Ecology reviewed the sampling requirements in other permits including the EPA and Connecticut. The conclusion was that a targeted approach that focused on a limited set of parameters (pollutants) would meet the goal of the permit. A limited set of pollutants (base level) simplified the permit, limited the cost to the Permittee, and provided the tangible evidence. A few additional pollutants were required for specific industrial groups where there was a high environmental risk or there were pollutants that were not likely to be linked to the base level pollutants. Ecology is not convinced that monitoring for additional pollutants would add information not available from the base level pollutants for the protection of the state's waters.

The stormwater pollution prevention plan (SWPPP) and associated best management practices (BMPs) are the permit requirements (limits) that are necessary for a permitted facility to achieve compliance with water quality standards. In addition to maintaining a copy of the SWPPP at Ecology, the permit requires each facility to conduct stormwater sampling and analysis and to report the monitoring results to Ecology. The base level pollutants were picked to provide the information necessary to determine how well a site is doing. Turbidity is a good indicator of how clean the site is. Dirty sites result in dirty, turbid, water. Since many of the pollutants of concern in stormwater cling to dirt particles, turbidity provides a good overall indicator of potential pollutants in stormwater. Likewise pH is a good indicator of whether stormwater is being contaminated. Oil and grease was included because mechanized equipment is pervasive at industrial sites and represents a likely source of petroleum related pollutants. Metals are also a common contaminate and

data indicated that zinc would be a very good indicator for the presence of metals. Collectively they form a good measure of stormwater management and compliance with the SWPPP requirement.

The application of a mixing zone does make the final determination of a violation of standards in the receiving water more complex. However, the use of benchmarks provides a very easy to apply first cut. A violation of standards is highly unlikely where a Permittee does not exceed the benchmark value. Sites that exceed the benchmark value can be required to submit additional information to demonstrate compliance (e.g. SWPPP updates) or be subject to a site visit to determine compliance.

**Issue:** The permit requires monitoring for nitrate/nitrite for the Chemical and Allied Products, Food and Kindred Products but does not require analysis for ammonia. We are therefore confused on why ammonia is listed under the monitoring suspension provision and nitrate/nitrite is not. **(24, 49)**

**Response:** Ecology is very grateful that this error was pointed out. Nitrate/nitrite monitoring is correct and ammonia was supposed to have been replaced by nitrate/nitrite in the monitoring suspension statement. The permit has been corrected.

**Issue:** An airport should be allowed to develop a single sampling plan that applies to the whole site and individual activities should not be required to have a separate plan and conduct their own sampling. This is a safety issue as well as a more reasonable approach to sampling. The permit should explain the sampling requirements as they apply to co-located facilities such as airports. The separate facilities do not typically discharge to a receiving water but discharge to stormwater conveyance system owned and operated by the airport. Where are the responsibilities here? **(17, 25)**

**Response:** There is nothing in the permit language that would prevent an airport from developing a single sampling plan. However, the plan must include sufficient sampling so that each individual permitted activity can comply with the permit requirement to monitor their discharge. The Permittee will remain the liable party and must incorporate the airport wide monitoring plan as applicable to their site into their stormwater pollution prevention plan. There is no real difference between a permitted facility at an airport discharging to an airport stormwater collection and discharge system and a facility in an urban area that

discharges to the municipal stormwater collection and discharge system. In both instances the permitted facility must capture a stormwater sample before it commingles with the larger stormwater system in order to characterize the quality of their stormwater discharge.

**Issue:** The permit does not adequately describe the period that deicing may take place. Instead of the 3-month period it should include October through the end of April. **(25)**

**Response:** Ecology agrees and has modified the permit to require sampling at any time from October through April when deicing activities are occurring.

**Issue:** If Permittees will be allowed to conduct turbidity and pH sampling with field meters and are not required to be lab certified, then Ecology needs to provide assurance that the Permittee is calibrating their meter correctly and that the Permittee has an acceptable meter. (37)

Why does the permit include parameters that are not subject to lab accreditation when they are parameters that the permit does not include for monitoring? (35)

**Response:** Permit language was added to specify that meters used for analysis on site must be properly calibrated and maintained according to the manufactures requirements. Independent verification of all meter use by Ecology is impractical but would be appropriate when conducting a technical assistance or site compliance inspection.

The permit includes the full text of monitoring that can be exempted from laboratory accreditation for completeness. It is possible that Ecology could require monitoring of one of the listed parameters by Order on a case-by-case basis. Including them in the permit removes any question of whether the Order can also authorize the use of a field meter without lab accreditation.

#### *Special Condition S5 – Reporting and Recordkeeping Requirements*

**Issue:** Reporting should require submission of visual monitoring reports. Ecology should provide an opportunity to submit documents electronically. (36, 40)

**Response:** Ecology will pursue electronic submission of documents wherever practical and this could include electronic version of the SWPPP. Ecology does not agree that across the board reporting of visual monitoring should be required. The staff time required to receive and file these reports for all facilities would not warranted by environmental outcomes. Instead, Ecology will only ask for these reports on a case-by-case basis.

**Issue:** Reporting should be changed from quarterly to annual reporting. The permit should include more than thirty days after the end of a quarter to submit the monitoring report. Particularly with a large number of analyses resulting from this permit, laboratories may not be able to complete all the reports in 30 days. (24)

Permit language requires the Permittee to assure that Ecology “receives” the discharge monitoring report within 30 days. The Permittee has no control over mail services and the language should be changed to postmarked by or sent by. (49)

**Response:** As discussed earlier, Ecology does not agree that annual reporting would be a positive change in the permit. Ecology does agree that there additional time can be provided for submitting the report. The reporting period was changed from 30 days to 45 days following conclusion of the monitoring quarter. Language was also changed from “received by” to “sent by”.

**Issue:** Electronic submission of discharge monitoring reports (DMRs) is a good idea but Ecology must resolve the issue of a legal signature. (39, 41)

**Response:** Ecology agrees that allowing electronic submission of DMRs must include a legally binding signature procedure. This issue has not been resolved at this time but does not require a permit revision. This can be addressed through permit implementation.

**Issue:** The permit should require records of inspection and maintenance of BMPs. The recordkeeping requirements should specifically require retention of inspection and maintenance logs. (42)

The recordkeeping section should clarify what records must be kept and it should reconcile the apparent discrepancy between the 5-year requirement of the current permit and the 3-year requirement of the revised permit. (25)

The recordkeeping section should include additional requirements to record weather data and photo documentation for stormwater sampling. (36)

**Response:** Reporting and recordkeeping requirements apply to all records and reports required by the permit. The stormwater pollution prevention plan (SWPPP) requires ongoing documentation of compliance with the SWPPP. Language was added to the inspection and recordkeeping portion of SWPPP requirements to make this more clear.

Ecology regrets the confusion caused by the change in records retention from 5 years to 3 years. Five years of retention is the correct number. The problem results from a difference between the regulations governing individual permits (3 year retention) and general permits (5 year retention). The permit was corrected, changing the 3 year record retention to 5 years.

Ecology does not believe there is a compelling reason to expand this section to include requirements for collection and retention of additional records beyond those already included in the permit.

**Issue:** The additional monitoring requirement requires the Permittee to report any additional monitoring of pollutants that meets the requirements of test procedures identified in Special Condition S4. We believe that any sampling that does not meet the sampling protocol does not meet the requirements of test procedures and reporting is not required. (20)

Since the permit authorizes the use of test procedures that are equivalent or superior to those required by the permit, does that mean that any additional testing using different but equivalent/superior test methods must be reported? (41)

**Response:** This permit provision is intended to prevent the Permittee from doing additional analysis and then picking and choosing what will be reported. The intent is that any monitoring that meets the monitoring requirements must be included in the discharge monitoring report (DMR). “Test procedures” specifically refers to specified analytical methods which would include analysis by equivalent/superior test methods. It could also include the sampling protocol. Ecology is expecting that stormwater sampling will typically meet the intent of the protocol and not require resampling. Analysis of a stormwater sample that would be wholly unacceptable because it failed to meet the protocol can be excluded from the DMR report.

**Issue:** Permit language only allows 5 days for non-compliance notification and there is no indication of threshold for determining what is non-compliance. **(20, 25)**

**Response:** The permit was revised to allow more time for submitting the non-compliance notification, 30 days, and to specify that it applies to any non-compliance that could result in a discharge of pollutants in a “significant amount”. Significant amount is defined by the permit and properly identifies the threshold for reporting non-compliance. It should be noted that it does not just apply to non-compliance that results in a discharge but “could result” in a discharge. This would include any loss of best management practices (BMPs) or failure to maintain BMPs that might result in a discharge of pollutants in a significant amount. The language was also revised to make it more applicable to stormwater, eliminating actions that would apply to process water but not stormwater.

**Issue:** S3.E.3. allows Ecology to allow additional time. This is an objectionable clause since it allows time frames to change without any opportunity for public comment and at the very least should require a written authorization by Ecology. **(41)**

**Response:** The permit was revised to allow more time for the response, up to 30 days, unless Ecology requests less time. There is no extension provision beyond the 30 days.

#### *Special Condition S6 – Conditional “No Exposure” Certificate*

**Issue:** Electronic submission of the “no exposure” form must meet federal regulatory signatory requirements. **(41)**

**Response:** Ecology has no intention of implementing electronic submission of this form if it will not meet federal requirements applicable to this procedure.

**Issue:** How can a facility determine if they meet the conditions of “no exposure”? How would you know that there is no reasonable potential to cause or contribute to a violation of water quality standards? What conditions might result in significant levels of contaminants from a roof? The permit discriminates against large land owners by limiting no exposure to the entire facility and not allowing for no exposure to individual outfalls. **(35)**

**Response:** Ecology will provide instructions for completing the application for Conditional “No Exposure” Certificate. However, the rule of thumb should be that if you do not know if you may cause or contribute to a violation of water quality standards, it is likely you do not qualify for a conditional no exposure certificate. Galvanized or copper roofs are potential sources of significant levels of zinc and copper respectively. Contaminants from facility air emissions will typically not be considered a source of significant levels of contaminants as long as they are consistent with air emission regulations and any emission control devices are properly maintained and operated. “No exposure” would not be applicable where there are visible deposits of residuals near roof or side vents. Likewise “no exposure” would not be applicable where there is visible track out of pollutants from covered area (e.g. by vehicles or wind).

Permit coverage is issued to an entire facility. It does not make sense to try to apply “no exposure” to a portion of the facility. The purpose of “no exposure” is to allow facilities that qualify for “no exposure” to be exempt from obtaining a permit. Since a facility with some exposure will require a permit, there is no exemption to be gained. The permit already allows a facility to minimize permit requirements for portions of the facility where there is no exposure. No exposure amounts to a source control measure and documentation of the no exposure in the SWPPP would be the primary requirement. Stormwater sampling would not be required where the Permittee can demonstrate that sampling at one or more other outfalls meets the intent of the permit.

**Issue:** S6.C.1. should be revised to address stormwater contact with contaminated ground under covered areas, but not necessarily materials and machines. (41)

**Response:** Ecology agrees and revised the permit to included the recommended change.

**Issue:** There is data demonstrating that galvanized roofs can cause significant levels of zinc contamination and copper roofs can result in copper contamination. The permit should specifically identify these potential sources of contamination. (42)

**Response:** Ecology agrees with this comment and has revised the permit to specifically identify copper and galvanized roofs as potential sources of significant levels of pollutants.

**Issue:** The permit grants a “no exposure” certificate automatically after 60 days unless Ecology responds in writing. This is unacceptable and no one should receive a no exposure certificate unless Ecology makes a written determination to grant it. Just filling out a form is not sufficient. The minimum conditions for granting no exposure should include a field inspection. “No exposure” should require proof that there is no contamination and that the facility has implemented appropriate best management practices. (8, 10, 11, 34, 36, 38, 39, 40, 41, 49)

The “no exposure” certificate should not be valid for 5 years without ongoing reporting to Ecology that demonstrates compliance with the “no exposure” requirements. (1, 49)

**Response:** Ecology is somewhat confused about the concerns over the “no exposure” certificate procedure as it represents a significant step forward in terms of addressing facilities that are not under permit because there is “no exposure” of their industrial activities to stormwater. The current permit has an exclusion from the permit based on a condition of “no exposure”. Although it is limited to facilities that fall under the “light industry” category, the current permit does not require these facilities to identify themselves or in any way certify that they meet the conditions of “no exposure”. Under the revised permit, these facilities will now have to actively apply for “no exposure”. They will be identified and they must certify that they meet the conditions of no exposure. This group represents a very large number of facilities, potentially as many as 17,000. Requesting additional information and a written determination by Ecology could result in several thousand hours of work. Automatically granting conditional no exposure certificates where appropriate is not only acceptable but necessary to avoid diversion of staff from more important tasks.

Ecology imagines that the concerns are more focused on the extension of the “no exposure” option to industrial activities other than “light industry”. All industrial categories are now eligible and may apply for exclusion from the permit based on “no exposure”. Ecology appreciates this concern and the permit includes the necessary safeguards to minimize risk of inappropriate application of the “Conditional No Exposure” Certificate. Ecology can by letter eliminate the automatic granting of “no exposure”. Facilities currently under permit and changing to “no exposure” are one group that will likely receive such a letter. Likewise industrial activities that fall under an SIC code that is highly unlikely to qualify for “no exposure”, such as a log yard, would receive a letter. Any concern from the public is also likely to result in the applicant receiving a letter that eliminates the 60-day automatic

provision. Ecology will deny applications that do not meet the minimum requirements based on responses on the application form. Ecology will post a list of applicants for “no exposure” exemption on an Ecology web page. This listing will include their application date and a status that indicates if they are under the 60-day automatic provision or a letter was sent placing their application on hold pending an Ecology review. There will also be a listing of facilities that have received the Conditional “No Exposure” certificate.

Permit language was revised adding “conditional” to the title and specifying that conditional means that the facility must be consistent with the “no exposure” requirements and must remain consistent with those requirements. The conditional “no exposure” certificate conveys to Ecology the right to enter and inspect the facility and facilities must reapply every five years. The permit already requires a change in status if the facility changes in a way that results in exposure. An ongoing (e.g. every 6 month) recertification adds little and has the potential to divert Ecology resources to an oversight activity of minimal environmental consequence. Ecology believes the permit language is appropriate and adequate.

#### *Special Condition S7 – Compliance with Standards*

**Issue:** The water quality standards (criteria) should not be applied to stormwater. They are based on science that considered steady state discharges (process water) and is not applicable to episodic storm events that vary in frequency, duration and intensity. **(18, 29)**

The bold permit language that requires compliance with standards is over stated and sets up Permittees for third party lawsuits. This statement is more rigorous than the benchmark system authorized by the permit. **(18, 25)**

**Response:** Ecology does not agree that water quality standards are not applicable to stormwater. While it may be more difficult to demonstrate when stormwater will cause an exceedence of standards, that does not mean, for example, that the toxic levels established by the standards do not apply. It should not be assumed that storm events inherently increase the available dilution in the receiving water. In areas where the watershed has a high percentage of impervious surface there may be little stormwater that is not subject to pollutants from man’s activities. After a period of drought, it is also likely that “natural” areas will absorb most of the stormwater and discharge little to the receiving water. Under these conditions, stormwater from impervious surfaces will dominate the increased stream flow. The potential for stormwater to result in receiving water toxicity and loss of beneficial purpose is significant and not to require compliance with standards would be a failure to apply the law, as well as a failure to provide reasonable protection to the environment.

There is nothing particularly bold about the straight forward statement requiring compliance with standards. The permit simply states the legal requirement. Ecology fails to understand how this makes a Permittee more vulnerable to third party lawsuits or how it is inconsistent with benchmarks. While water quality criteria may be less than the benchmarks, a violation of standards includes consideration of available dilution. Under most conditions, benchmark values would not be a violation of standards and that is why they are considered protective.

**Issue:** The permit does not adequately define what is compliance and what is out of compliance. If a facility is out of compliance the public should be notified by Ecology along with the action Ecology will take to bring the Permittee into compliance. Permittees should be required to apply the new stormwater manual to get back into compliance. The permit should specifically identify how Ecology will assess if a facility is in compliance and what enforcement actions will be taken if a facility is not in compliance. **(36, 37)**



**Response:** A permit is written to identify who the permit covers, how an entity obtains permit coverage, and what requirements apply to those under permit. The permit does not provide guidance on how to comply with the permit and it does not dictate what enforcement actions will be taken for noncompliance. The fact sheet provides additional clarification and throughout the permit life cycle, Ecology assists those with questions about compliance through permit implementation forms and directions, guidance documents, and technical assistance visits. Portions of this response to comments address the intent of permit requirements and become part of the record on what is expected for compliance with the permit. The permit does specify that all Permittees must use the latest Ecology stormwater manual when selecting BMPs to come into compliance.

Ecology appreciates the public interest in assuring protection of water quality in the state's waters. At this time, there is no procedure to list all water quality enforcement actions associated with this permit. However, Ecology does track enforcement actions and the public can request access to that information. However, many actions, such as technical assistance, will not appear on an enforcement report.

**Issue:** Where is the point of compliance if the permitted facility discharges to a stormwater conveyance system? What is considered "waters of the state" and how does that relate to the point of compliance? What is a treatment system and what are waters of the state? (20, 45, 51)

**Response:** The permit was revised to address the issue of point of compliance. The general rule is that the point of compliance is at the receiving water and receiving waters are waters of the state that have the typical beneficial uses established in chapter 173-201A WAC. Language was added to define a stormwater conveyance system. The point of compliance is not at the point of discharge to the conveyance system, it is where the conveyance system discharges to a receiving water. A treatment system would be considered the same as a conveyance system. The point of compliance would be where treated water is discharged to a receiving water.

For monitoring purposes, the stormwater sample must typically be taken before it commingles with other stormwater in the conveyance system unless all the stormwater in the conveyance system is from the permitted facility. Compliance is based on consideration of the characteristics of the stormwater where it discharges to the conveyance system and the characteristics of the receiving water where the conveyance system discharges. What this means is that if the conveyance system discharges to an impaired water, stormwater discharges to the conveyance system are treated as if they discharge directly to the impaired waters and are subject to end-of-pipe limits for the listed pollutants. Likewise, where impairment is not the issue, compliance with standards will consider the characteristics of the stormwater discharge where it discharges to the conveyance system and available dilution in the receiving water at the point where the conveyance system discharges.

**Issue:** Compliance should not be established at the edge of the mixing zone but should be applied to "end-of-pipe" sampling with consideration for dilution. (49)

There is no permit requirement to determine dilution for each facility. What does it mean that compliance with standards will be determined after consideration of available dilution? How does dilution apply to water quality standards that are not numerical such as aesthetics or beneficial uses? (39, 41)

**Response:** Ecology does not disagree with the comment that compliance should be based on end-of-pipe samples and consideration of available dilution. However, in order to apply dilution, the permit must identify the size of the mixing zone. It will also require additional site-specific information to determine dilution.

The federal regulations direct the permitting authority (Ecology) to consider dilution if appropriate when determining if there is a water quality violation. This permit provision simply applies that directive. Ecology appreciates the distinction made concerning aesthetics and beneficial uses such as migration. The concept of dilution is intended to apply to numeric standards where dilution changes the concentration of the pollutant within the mixing zone. The permit was revised to direct the application of dilution considerations to numerical standards.

**Issue:** The permit improperly limits the application of a mixing zone. Ecology should not require end-of-pipe compliance with water quality standards. Consideration of available dilution should be replaces with “in a manner consistent with chapter 173-201A WAC.” (45)

**Response:** This issue was discussed for a similar comment under the S3 heading and a mixing zone will not be applied to discharges of pollutants of concern to impaired waters. The purpose of defining a mixing zone is to identify the area in the receiving water where dilution may occur. Ecology has set these boundaries for the standard mixing zone. The permit also allows the Permittee to apply for an expanded mixing zone. This is a consistent application of the mixing zone provisions of chapter 173-201A WAC within the context of a general permit. Although it is technically possible to determine compliance based on sampling at the edge of the mixing zone (which in fact is a direct measure of dilution), it will most often not be practical. It will typically be necessary to calculate dilution based on the receiving water and the allotted mixing zone dimensions in order to determine if there is a water quality violation.

**Issue:** Ecology should not authorize a mixing zone. (36)

**Response:** Ecology does not agree. A mixing zone is legally available and traditionally applied by Ecology when appropriate. Except for discharges of pollutants of concern to impaired waters, dilution will typically be available and a mixing zone can be authorized.

**Issue:** A storm that exceeds the design storm event should not allow a Permittee to be out of compliance. Ecology should remove the provision that says there is no permit violation when a treatment system fails as a result of an exceptional storm. This should only be an issue of Ecology’s enforcement discretion. (1, 8, 34, 37, 39, 40, 41, 47)

The Permittee should not be responsible for any system failure when storms exceed the design storm. Permittees should not be required to file a noncompliance notification when the storm event exceeds the design storm. The design storm exemption is an absolute necessity. (20, 35)

What does “fully functional” in S7.C. mean as applied to stormwater treatment systems? (22)

**Response:** Ecology has determined that the S7.C. provision should be removed. There remains a concern about stormwater and compliance with standards. The reality is that there is no upward boundary on how much rain can fall in a given period. Designing for an indefinable target does not make sense. Nonetheless, Ecology agrees with the commenters that took issue with this provision. However, Ecology has modified the by-pass provision of S8 so that it better reflects the realities of stormwater discharges and accommodates the intent of S7.C.

This issue is also perplexing because high volume, high intensity storms are likely to result in conditions that are not favorable to stormwater sampling anyway. Exceptional storms are not likely to result in a determination of a water quality violation because there will not be sampling of the event sufficient to support the determination. So while removing S7.C. may seem to increase Permittee liability, the practical reality suggests that liability is limited. Ecology applies enforcement discretion and a violation that are solely the result of an exceptional storm is an unlikely target for enforcement.

**Issue:** The permit should just define what the design storm is and not reference the stormwater management manual. We suggest the 24-hour storm with a 6-month return frequency. (45)

**Response:** Ecology does not agree that this complex issue should be simplified to a single definition of design storm. Stormwater management must be properly sized according to its purpose and reasonable expectations. Conveyance systems for example typically require greater sizing in order to avoid flooding. Ecology manual sizes treatment systems

differently depending on whether they are flow or volume based treatment systems. Since the Ecology stormwater management manual is the source of management practices, it is the appropriate reference for sizing requirements and the applicable design storm.

#### *Special Condition S8 – Operation and Maintenance*

**Issue:** This permit provision suggests that redundant structural source control or treatment BMPs might be expected and required. The permit should either eliminate this provision or define when it applies. (45)

**Response:** Ecology does not agree that this provision requires greater clarification. It is the Permittee's responsibility to identify the source control and treatment facilities that are required for an industrial activity. These systems must be engineered to assure compliance. Part of engineering should be a determination of probable failure rate. This provision requires the Permittee to consider the potential failure rate and to provide backup or alternate procedures when necessary to assure compliance with the permit. The rest of this provision addresses procedures where bypass is planned or unavoidable.

**Issue:** This provision defines bypass procedures for stormwater treatment facilities. This provision must take into account design criteria that deliberately bypass stormwater based on flow rate or volume. (22)

There should be explicit recognition that stormwater flow quantities in excess of the design storm may be bypassed. (45)

**Response:** This provision was revised so that it more specifically addresses the issue of stormwater discharges. The language in the draft permit was written primarily for process water discharges. Ecology agrees that the bypass language should include the context of the design storm. The revised language prohibits the bypass of stormwater below the applicable design storm criteria for stormwater management. The revision states that an enforcement action will not result from the intentional bypass of stormwater consistent with applicable design criteria and part of an approved management practice in Ecology's stormwater management manual.

#### *Special Condition S9 – Stormwater Pollution Prevention Plan (SWPPP)*

**Issue:** S9.A. references the wrong general condition. (29)

There should be some threshold for what represents a SWPPP modification that requires an authorized signature (25)

**Response:** Ecology appreciates the assistance in catching this mistake. It is corrected to identify the correct reference to signatory requirements.

Ecology agrees that revising typos in the SWPPP or improving the quality of the map or other changes that are more administrative in function than modification of the SWPPP

should not invoke the authorized signature requirement. This will require an application of the “reasonableness test” but the permit was revised from “all modifications” to “significant updates”.

**Issue:** Ecology must review and approve the stormwater pollution prevention plan (SWPPP). Failure to do so makes this major permit requirement meaningless. (36, 40)

**Response:** Ecology does not agree that all SWPPPs must be reviewed by Ecology. The development and implementation of the SWPPP is the responsibility of the Permittee. Ecology does not intend to spend the staff resources it would take to review all of these documents. However, there is opportunity for review of the SWPPP and this will be applied by Ecology as appropriate. When Ecology field staff conduct a site investigation they will typically review the SWPPP. This is the most effective time to review the SWPPP because the words can be related to actual on-site conditions. Sampling and analysis provides another trigger for review of the SWPPP by Ecology. Ecology believes that a focused approach on review where it is most relevant is a much more effective use of staff resources to provide environmental protection.

**Issue:** A facility such as an airport may have a number of industrial activities, each with their own permit coverage. However, it makes sense to develop a SWPPP for the whole site that integrates all the activities. It is unclear if this approach would meet the requirements of the permit. (17)

When activities are co-located within a common function, e.g. airport, must all parties have permit coverage or can there be one permit? They typically discharge to a common stormwater system and not to a receiving water. (25)

Airports are not all the same and one set of requirements for BMPs is unreasonable. Airports should be authorized to determine what is appropriate at their site and to only implement BMPs that make sense. (17)

**Response:** The permit does allow for “co-permittees” and this may be useful at a location like an airport. More importantly, there is nothing in the permit that would prevent an integrated approach to developing a SWPPP at a location such as an airport. The SWPPP must identify each industrial activity and meet the permit requirements for BMPs applicable to each industrial site. Each site must be able to easily identify their requirements and each Permittee is ultimately responsible for meeting the terms and conditions of the permit. Ecology finds no need to alter the permit and to authorize a collective approach. However, discharging to a common stormwater collection system does not remove the responsibility of the individual site to monitor (or have someone monitor) their stormwater. There is no real difference between the airport collection system and a municipal collection system and the same rules apply.

There are “industry standard” basic BMPs that must be included. These include operational and source control BMPs. There is also the expectation that BMPs will be tailored to site-specific conditions. The “facility assessment” is a basic component tailoring BMPs to a facility. Ecology believes there is sufficient flexibility in the permit language to allow the

requested tailoring as long as there is adequate documentation in the SWPPP for how the management practices were selected and how they meet the permit requirements for stormwater management,

**Issue:** S9.A.4. includes the objectionable “unless otherwise authorized by Ecology in writing” language that allows Ecology to modify permit requirements without public knowledge or participation. (36, 39, 41)

The time frames for planning and implementing best management practices (BMPs) in this provision, particularly those that require capital improvements, are much too short. At least 18 months should be

allowed. It is unclear whether the time period for completing BMPs begins after the completion of a plan or concurrently with completing the plan. The schedule for implementing BMPs here provides a much shorter time frame than is allowed in the compliance schedule of Special Condition S2. Shouldn't the requirements here provide the same compliance schedule? (20, 24, 42)

The use of the word modification seems to imply that adding additional BMPs as a result of visual inspection or Ecology request would constitute a modification of coverage. It is unlikely that facilities will want to initiate a modification of coverage and will be less likely to upgrade BMPs and apply adaptive management. (29)

How will Ecology "notice" a Permittee that additional or enhanced BMPs are required? Will this be an enforceable action? The use of visual monitoring as a trigger requiring modification of addition of BMPs is too ambiguous to be practical. Visual monitoring is subjective so how would you arrive at a determination that there is a potential to discharge pollutants of a significant amount. (45)

**Response:** The permit includes time frames for implementing BMPs that Ecology believes are reasonable under typical conditions. The permit allows additional time where there is a justifiable reason such as more complex engineering considerations. Ecology does not believe these actions require a defined public process such as a modification of coverage. The inclusion of the process for requiring BMP improvements in the permit is sufficient public notice of how Ecology will exercise best professional judgment in administering this permit.

The time frame for adding or improving BMPs is shorter than the time allowed for developing and implementing a SWPPP identified in Special Condition S2. S2 applies to existing facilities that have not been under permit coverage. These facilities are not just adding a BMP or improving one but are beginning from scratch. The difference in time frames is recognition of the difference in scope of the tasks. It is reasonable for Ecology to require a quicker response time from a site that is expected to have the basic BMPs in place.

Ecology agrees that "Modifications" was not the best choice of words and it was revised to "Enhanced/Additional Best Management Practices (BMPs)". Ecology hopes that the revision clarifies the intent of this permit provision which did not intend to trigger modification of coverage under this permit provision.

Ecology has an array of options available to “notice” a Permittee of the need to add/improve BMPs. The permit does not dictate the response because this is better handled by best professional judgment that will be applied by the Ecology permit manager. Typically Ecology will issue a technical assistance report with deficiencies noted. If this does not result in improvements at the site, Ecology may issue an Order. Ecology will discuss this and other permit implementation/enforcement issues to provide consistency in achieving compliance with permit requirements.

Ecology does not agree that visual monitoring is too subjective and ambiguous to be a useful trigger for determining the need for additional or modified BMPs. Turbidity is observable and if visual inspection reveals turbid stormwater from materials stored on-site, it is reasonable to expect the Permittee to address this with source control if possible and if not to consider treatment BMPs. Visual monitoring applies a common sense approach to stormwater management. Ecology will provide assistance in the form of a check list but there is significant opportunity for the Permittee to demonstrate their commitment to stormwater management by developing their own list of visual indicators that can be used at their site to assess how well stormwater management is work. Ecology does not believe that subjectivity is the issue. The issue is identifying how to productively apply visual monitoring. It may not produce the “hard” numbers of stormwater sampling, but it is less expensive and in collaboration with the stormwater sampling and analysis should result in good stormwater management.

However, Ecology does agree that there may be grounds to dispute decision. Washington state law (RCW 43.21B.230 and 43.21B.310) provides for appeal of Ecology actions. However, it is hoped that disputes can be resolved prior to a formal appeal. Special Condition S13., Dispute Resolution was added to the permit to encourage informal options and formally acknowledge the right of appeal.

**Issue:** SWPPP requirements should include a title page that identifies when the SWPPP was last updated and by whom. **(36)**

**Response:** Ecology does not believe that the requested SWPPP enhancement warrants a permit revision. Ecology is currently in the process of updating the SWPPP guidance document and the suggestion will be included in that process.

**Issue:** Ecology should maintain a “current” copy of the SWPPP at each regional office. This should include updating the SWPPP. Ecology should require Permittees to submit an electronic copy of their SWPPP. **(5, 8, 10, 36, 39)**

Permittees should be required to submit with the SWPPP a copy of any other documents included in the SWPPP by reference. **(39, 41)**

The Permittee should be allowed, wherever applicable, to include by reference other documents that address SWPPP requirements. The permit should not require inclusion of the referenced documents unless specifically requested when submitting the SWPPP to Ecology. **(20)**

Compliance with standards does not provide a solid basis for determining if a facility must update BMPs using the new Ecology manual. How do you measure compliance with standards? The permit should make it clear that applying the new technical standards during new development and redevelopment only applies to the area under development. (35)

The permit poorly states the provision to submit a copy of the SWPPP or updates to the SWPPP upon request by Ecology. The permit seems conflicted on whether the Permittee must submit a copy of their SWPPP to Ecology or not. It seems to imply that Ecology will have a copy of the current permit but does not require submission of the SWPPP and updates. (25, 42)

Mandatory submission of SWPPP updates should not be required. (44)

**Response:** Ecology does not agree that the staff time required to continually receive and file SWPPP updates is warranted by environmental gains. With the addition of sampling and analysis, Ecology has a new tool to identify potential problem sites. The permit provides language to request these updates based on cause. Sample results and public concerns are sufficient triggers to focus requests for this information to sites where it will do the most good.

Inclusion by reference is intended to reduce the volume of the SWPPP where it is appropriate. At this time Ecology does not intend to require all referenced documents to be included with the SWPPP. They can be requested on a case-by-case basis where there is cause. However, the use of referencing is not intended to allow wholesale exclusion of SWPPP components because the Permittee has produced separate documents. An employee training plan should not be excluded because it exists as a separate documents. The intent of inclusion by reference is to reduce redundancy that would result from including information that the facility has already prepared to meet other regulatory requirements. The permit example of a pollution prevention plan prepared under the Hazardous Waste Reduction Act illustrates the intent of this permit provision.

Ecology agrees that “compliance with standards” is not an easy measure to apply to determining if BMP updates are required. However, the permit must be clear that where there is reasonable potential to cause or contribute to a water quality violation, that BMPs must be modified or added to reduce the amount of pollutants. Ecology did add language that is much easier to apply. Additional or modified BMPs may be required where sampling results exceed benchmarks. Ecology also added language to clarify that selection of BMPs from the most recent Ecology stormwater management manual is applied to the area under development/redevelopment.

Ecology believes the confusion on submitting a copy of the SWPPP is a result of events that occurred prior to the release of this permit. Ecology has a SWPPP for most Permittees currently under permit coverage. This was a result of a request for this information during the appeal of the previous permit. Ecology will identify any facilities where the SWPPP is missing and request it. The permit only requires submission of the SWPPP during the application for coverage process because they are already available for existing facilities.

At this time Ecology will not require that all SWPPPs be submitted to Ecology in an electronic media form. While an across the board requirement is premature, there is nothing to prevent applicants from submitting a copy of their SWPPP in electronic media.

**Issue:** The updated Stormwater Management Manual for Western Washington currently represents AKART as will the eastern Washington version when it is completed. However, the permit does not require existing Permittees to implement BMPs according to the revised manual. The permit is legally bound to require AKART and must be revised accordingly. (1, 8, 34, 39, 41)

With the addition of sampling, the permit has changed from presumption based on required BMPs to an outcome based on sample results. This change should be incorporated into the BMP selection requirement and allow the Permittee to determine what BMPs they will apply and not the requirements of the Ecology manual. Permittees should only be held accountable based on outcome. Ecology's stormwater manual is only technical guidance and not a regulation. It is not appropriate for the permit to require use of a guidance document. (20, 45)

The permit requires the use of the most recent Ecology stormwater management manual available "during" final design of a project. What is meant by this and when does it apply? (22)

The permit needs to define what parts of the state must use the western Washington manual and what parts must use the eastern Washington manual. The permit is too lenient on what will be required of eastern Washington facilities before the eastern Washington manual becomes available. (42)

The permit should make no reference to the use of the western Washington manual by eastern Washington facilities. (23)

**Response:** Ecology does not agree that the permit fails to require AKART because it does not require all facilities to update existing BMPs to meet the revised stormwater management manual. This is because AKART does in fact include a demonstration of "reasonable". The economic test applied to BMPs included in the revised manual did not consider the incremental change from an existing BMP. The analysis was based on implementing BMPs for the first time (e.g. development and redevelopment sites). Absent the "reasonable" test for upgrading a BMP according to the revised manual, it would be inappropriate for the permit to require this. Ecology does appreciate the concern that this diminishes the value of revising the stormwater management manual. However, this concern should be tempered with the reality that there is no wholesale grandfathering clause in the permit. The permit only states that Permittees are not required to update BMPs that are already in place and consistent with the previous manual. Any requirement to add new BMPs must apply the most recent Ecology manual. The permit further qualifies this by requiring the new manual if additional or upgraded BMPs are necessary to comply with water quality standards. Ecology believes the permit properly implements AKART and provides a sensible approach for Permittees that have already implemented all the required BMPs under the previous manual.

Ecology does not agree that the addition of sampling changes the nature of the permit from the presumptive approach to performance based approach. Sampling was added as a test to help determine how well the presumptive approach is working. In any case, Permittees are required to implement all the best management practices (BMPs) appropriate for their industrial activity (AKART). This is a technology-based requirement. The law is clear. Technology-based requirements must be implemented without determining if they are required to preserve water quality in the receiving water. Technology-based requirements are based on an industry standard and must be implemented regardless of water quality-based performance.

Performance applies when considering whether additional BMPs are necessary to achieve compliance with water quality standards. The permit does presume that sites that achieve benchmark values are highly unlikely to be causing or contributing to a water quality violation and conversely, discharges that exceed benchmarks are more likely to cause a water quality violation. In that sense, the permit has added performance based component but it is tied to water quality-based considerations and is not tied to technology-based considerations. Permit language was added to specify that exceeding benchmark values could result in requiring new or upgraded BMPs.

Ecology does not agree that it is inappropriate for the permit to require compliance with the stormwater management manual (SWMM). While the SWMM is not regulation, the permit is a legal document for the authorization and regulation of discharge. The permit must provide sufficient



controls on the discharge to protect the state's waters. The SWMM provides the set of standards necessary for stormwater management. The alternative to incorporating the SWMM by reference in the permit, is to take the SWMM content and add it to the permit. This would provide unreasonable bulk to the permit.

Ecology revised permit language to specify that the applicable SWMM is the one available when "beginning" final project design. Additional language was added to clarify what part of the state must use the western Washington manual and what part will use the eastern Washington manual when it becomes available. The permit requires facilities in eastern Washington to use the western Washington manual as applicable or other appropriate manual until the eastern Washington manual is available. Ecology believes this is reasonable language and provides sufficient flexibility for eastern Washington facilities until the eastern Washington manual is completed.

**Issue:** Permittees will need guidance and technical assistance if they are to develop a satisfactory monitoring plan. (49)

**Response:** Ecology agrees that technical assistance should be provided. A stormwater sampling guidance document will be prepared and workshops will be held to provide assistance on developing a monitoring plan, including procedures for taking a sample and arranging with a lab to process the sample.

**Issue:** The requirement to identify areas of existing and potential soil erosion is very broad. It seems this should be more tightly defined. (29)

A map that provides the details listed by the permit may provide information that should not be public given the potential for terrorism activities. The permit should address this. (20)

The permit should not require a map be drawn. The use of an aerial photo as the map should be acceptable. The permit should require the Permittee to add watershed information to the facility description. At a minimum it should include the Water Resource Inventory Area (WRIA), if the receiving water is impaired (303(d)), and if there are threatened or endangered species associated with the receiving water. The monitoring plan should include a photo of the point of discharge and also mark on the photo where stormwater sampling will occur. (36)

**Response:** Ecology agrees that an aggressive application of "potential soil erosion" could result in most of a site being listed. There has to be a reasonable application of what is meant by "potential". The permit was revised adding "in a significant amount" to suggest a reasonable approach.

Unless specific directives are received to the contrary, Ecology finds no legal basis to deny public access to information required by the permit. The information required for the site map is reasonable and applicable to the purposes of this permit and development of a SWPPP and will remain. The Permittee can request that certain information remain confidential or have access limited but Ecology will have to consider such requests on a case-by-case basis and within current public disclosure requirements.

Ecology believes that the word "drawn" is being applied too literally. There is no reason why a photograph would not be considered just another way of "drawing" a map. It simply has to include a scale of measurements so that size and distance can be determined. Ecology does not believe that the permit should require a photograph of the point of discharge although a Permittee may wish to do so.

The permit requires the Permittee to identify where they discharge to a receiving water. That location information is sufficient to identify WRIA and locate the discharge. Ecology will be developing an automated system to relate location of discharge to listed waters. This may also be tied to identification of threatened or endangered species.

**Issue:** The requirement to list materials makes no distinction or threshold on what should be listed. This seems to invite senseless listing of items with no reasonable potential to cause a problem. Providing a narrative on the potential to contaminate stormwater compounds the waste of time and is inappropriate for minor quantities of materials. There should also be a timeframe provided on the list of spills and leaks. Instead of complete inventories the list should provide general descriptions of types of materials and the range of quantities stored or processed. (20, 29, 32)

The permit language that requires the facility assessment to be “as complete as possible” and updated to “reflect changes” at the facility is too ambiguous. What is possible? What are changes? A literal interpretation would result in an assessment with endless details and constant updating. (32)

It is not obvious whether facility assessment would include incidental sources of contaminants such as tire wear, brake lining dust, hydraulic fluid, lubricating oil, etc. It also only requires listing of source control BMPs. What if there is no practical way to address the problem through source control? (42)

The list of areas associated with industrial activities that may be potential sources of pollutants should include copper and galvanized roofs. (42)

**Response:** Ecology agrees that listing of materials must apply a measure of reasonableness to what is listed. The intent was not to include every possible item. For example it is not intended to include a small bottle of rubber cement kept for incidental purposes but would include gallons of rubber cement kept on hand as part of the industrial activity. “Significant amount” was added to the permit language as an indication of the reasonableness test. Likewise, reasonableness is expected when applying “as complete as possible” and “reflect changes” in the facility assessment. The permit added “substantive” to changes to indicate reasonableness.

Ecology agrees that incidental sources such as those listed in the comment should be included in a facility assessment and the permit was revised to include an “incidental sources” example. The application of treatment BMPs may be necessary where incidental sources of contaminants can not be adequately controlled through source control. The SWPPP must include address this issue and indicate how these sources of pollutants will be managed.

Ecology agrees that copper and galvanized roofs should be added to the list of areas associated with industrial activities that may contribute significant levels of pollutants. It was added to the list.

**Issue:** It does not makes sense to estimate the volume of discharge as required by the monitoring plan. Volume is related to the storm and is not a set amount. (27, 42)

**Response:** Ecology agrees that draft permit “volume of discharge” estimate does not make sense as written. The intent is to provide information on volume as it relates to storm events and the permit was revised to require information from which a volume of discharge could be calculated.

**Issue:** The permit should specifically require the Permittee to follow the inspection and maintenance procedures recommended by the manufacturers or designers specifications. (42)

The phrase “below a significant amount” is qualitative and will not help the Permittee determine when treatment BMPs are required. The permit should provide a quantitative trigger. (42)

**Response:** The Permittee must properly maintain and operate all stormwater management facilities. Typically that will mean following the recommendations of the manufacturer or designer. However, Ecology believes the permit language sufficiently states the inspection, operation and maintenance requirements and does not require modification.

The permit definition section includes a definition for “significant amount”. It provides sufficient direction to make a reasonable determination on when to apply treatment BMPs. It could be argued that it is a quantitative trigger in that it does reference an “amount” of pollutant. But whether considered qualitative or quantitative, Ecology believes the trigger is properly set.

**Issue:** Ecology should provide a model monitoring/sampling plan to assist Permittees and identify the components and requirements of a monitoring plan. **(36)**

**Response:** Ecology agrees and intends to develop a template that will be used at technical assistance workshops, helping Permittees develop a useful and complete monitoring plan.

**Issue:** The introduction in S9.B.3. should reference the stormwater management manual as the primary source of BMPs. **(36)**

**Response:** Ecology believes the intent of S9A.5. requires the application of the stormwater management manual at S9.B.3. but added language to make this clear.

**Issue:** The permit overstates the need to evaluate the risk of soil erosion at their site. It should be limited to soil erosion of a significant amount that may contaminate stormwater and discharge to surface water. **(29)**

**Response:** Ecology agrees with the commenter and added “of a significant amount”.

**Issue:** The permit is overly prescriptive in requiring official BMPs and provides too little opportunity for the Permittee to apply other BMPs that are not listed in Ecology’s stormwater manual. Permittees should be allowed to implement BMPs that are less effective as long as they perform well enough to comply with water quality standards/benchmarks. **(20)**

**Response:** There is no intent to prohibit the use of equivalent or superior BMPs. Ecology’s stormwater management manual sets a commonly accepted standard and Permittees that apply the BMPs listed in that manual, as appropriate for their industrial activity, are presumed to be in compliance with AKART. Permittees that choose alternative BMPs have the burden to prove that they are in compliance with AKART. When a Permittee chooses alternative BMPs, the SWPPP must include a thorough discussion of equivalency and how the alternative BMP is an acceptable substitution. Permit condition S9.B.5, Other BMPs was revised to include language on substituting equivalent/superior BMPs.

**Issue:** The permit should not just require the Permittee to have a visual monitoring check list, it should identify what must be included on the visual monitoring check list. **(36, 41)**

The recordkeeping requirements for operational BMPs (S9.B.3.a.vi.) is unclear and incomplete. It should include the retention time and the requirement to certify that the facility is in compliance with the SWPPP. **(41)**

What happened to the requirement in the previous permit to investigate for the presence of non-stormwater discharges? References to Ecology’s stormwater management manual should reference the 2001 western Washington manual. **(39)**

**Response:** Ecology does not agree that the permit must identify all that must be included for visual monitoring. Permit Special Condition S4 does outline some basic requirements. As a part of implementing the permit Ecology will provide a visual monitoring check list template.

Ecology agrees that the recordkeeping requirements listed at S9.B.3.a.vi. were incomplete and unclear. They have been revised to provide greater clarity and include certification of compliance.

**Issue:** It is unclear what regulatory authority Ecology relies on to direct that “peak flow” be regulated. What does regulating peak flow mean? **(45)**

**Response:** Water quality standards establish the protection of beneficial uses. Pollution as well as pollutants can limit beneficial uses. Peak flow that is greater and more compressed as a result of industrial stormwater discharges can limit beneficial uses by scouring the stream bed and by excessive bank erosion. These BMPs are applicable to new development and redevelopment.

*Special Condition S10 – Solid and Liquid Waste Disposal*

Ecology did not receive any comments for this permit provision.

*Special Condition S11 – Notice of Termination*

**Issue:** The permit is unreasonably restrictive in defining the basis for terminating coverage under the permit. **(51)**

**Response:** Ecology agrees that the draft permit was overly restrictive and it was revised to better define when terminating coverage is appropriate.

*Special Condition S12 – Determination of Primary Activity*

Ecology did not receive any comments for this permit provision.

*General Conditions*

**Issue:** In General Condition G2, the permit should more clearly define the phrase “properly operate and maintain”. It should specifically reference operation according to the manufacturers or designers recommendations. **(42)**

General Condition G2 makes unreasonable demands for operation of stormwater facilities and should be revised to recognize emergency or reasonable repair and maintenance. **(32)**

**Response:** The general condition language is standard to NPDES permits issued by Ecology and requires proper operation and maintenance of pollution control facilities and practices. Typically that means following the manufacturers or designers recommendations. Adding the suggested language only begs the question of exceptions or alternatives. No change was made. .

Ecology does not agree that the language of G2 needs to provide exception to proper operation and maintenance at all times. Maintenance should be timed to avoid storm conditions when possible. Unavoidable situations fall under the bypass provision of Special Condition S8.

**Issue:** General Condition G3 implies that a facility would have to halt production as a means to control discharge of stormwater. This condition is related to process water and does not apply to stormwater. **(20, 45)**

**Response:** Ecology agrees and General Condition G3 was deleted.

**Issue:** General Condition G5(C) references reduction or elimination of discharge. This is a process water condition and not applicable to stormwater. Likewise (H) would revoke the permit coverage based on a qualifying local pretreatment program does not apply to stormwater. **(20)**

General Condition G5 should explicitly state that failure to complete and implement a SWPPP is grounds for revocation of permit coverage.

**Response:** Ecology agrees and (C) and (H) were removed.

Ecology agrees that developing and implementing a SWPPP is a critical requirement of the permit and failure to do so would be grounds for revocation of permit coverage. However, listing specific permit requirements under this general condition is not required and may imply that revocation would only apply to listed violations. The language will not be revised.

**Issue:** General Condition G17 does not include the legal citation for the listed penalties and does not appear consistent with state regulations for enforcement. **(29)**

**Response:** The general condition language is standard to NPDES permits issued by Ecology and reflects the laws of the state. Please reference RCW 90.48.140 and 144 and WAC 173-220-230.

**Issue:** General Condition G18 should be revised to reflect additional corporate authority options.

General Condition G18.C. defines requirements for changing authorization. Does this require reauthorization if the person originally signing the authorization changes?

**Response:** Signatory requirements of G18 are based on Washington state regulations, WAC 173-226-090 and as such will not be changed. The Permittee should inform Ecology of changes in personnel that directly affect permits requirements such as when there is a change in the person who has signatory responsibility for the permit (G18.A in the final draft permit, G17.A. in the final permit). However, Ecology sees no reason to resubmit authorization forms where there is no change in that person/position.

## *Permit Definitions*

**Issue:** The definitions section should include a definition of AKART. (36)

**Response:** Ecology agrees and the definition was added.

**Issue:** Ecology should better define stormwater consistent with federal regulations so it is clearly distinguished from process water. (46)

**Response:** The definition of stormwater in the permit is reasonably the same as in the federal regulations but the permit did not include a definition for “stormwater discharge associated with industrial activities”. That definition has been added to the definition section of the permit along with the reference to the federal regulations.

**Issue:** The definition of stormwater management manual should be revised to reflect the current edition. (38)

The definition of stormwater management manual is for the outdated Puget Sound Basin version. This needs to be changed and the definition should include information on how to obtain a copy of the current manual. (42)

**Response:** Ecology agrees and has updated the definition. However, adding information on obtaining a copy was not added. The problem with this sort of information is that it may quickly become obsolete. It is better to provide this information by a different means.

**Issue:** Ecology should define “design storm” as the 24-hour storm with a 6-month return frequency. (45)

**Response:** Ecology does not agree that “design storm” can be properly defined by the recommended storm event. Ecology spent considerable time defining and applying the concept of a design storm to best management practices in Ecology’s stormwater management manual. The definition has been revised, providing the concept and purpose of the design storm but directs the reader to the stormwater management manual for specifics on how to apply it.

**Issue:** While “discharge target” is a useful concept it does not appear anywhere in the permit and serves no purpose here. (20, 45)

**Response:** Ecology agrees and has deleted the definition for discharge target.

**Issue:** The definition of “treatment BMPs” should include “media filtration”. (42)

**Response:** The list is not intended to be an all inclusive list but Ecology has no problem with adding “media filtration” to the list and the change was made.

**Issue:** The definition of “Equivalent BMP” should be changed to specifically say that the Permittee may substitute equivalent BMPs for those required by Ecology’s stormwater management manual.

**Response:** Ecology sees no reason to change the definition but as noted above, did revise language in permit Special Condition S9 to clarify appropriate use of “equivalent BMPs”.

**Issue:** The definition for “Existing Facility” is circular and should be revised. (20)

**Response:** Ecology agrees that the definition in the draft permit was not sufficient. It has been revised to more clearly reflect the use of “existing facility” within the permit.

**Issue:** The definition of “Illicit Discharges” should be changed to exclude those incidental discharges authorized by the EPA multi-sector general permit.

**Response:** Ecology does not agree that the referenced non-stormwater discharges should be authorized by this permit. Since the permit language was not changed, the definition will not be changed.

#### *Fact Sheet*

**Issue:** We find the fact sheet confusing because in one part, page 15, it says the permit does not require sampling and analysis and but later says all facilities must conduct stormwater sampling and analysis. (40)

**Response:** Ecology regrets the confusion but there is no inconsistency here. On page 15, the fact sheet is discussing the current status and compliance with the previous permit. In the current permit, there is no required sampling and analysis. Later in the fact sheet where it talks about what will be contained in the revised permit, it includes the new sampling and analysis requirement.

**Issue:** We are unclear why the fact sheet will not be revised based on comments. (29)

The discussion of “Critical Conditions” in the fact sheet should include a discussion of criteria as they apply to stormwater, including the lack of scientific foundation for applying the criteria to stormwater. (29)

The mixing zone discussion in the fact sheet says that there will be no mixing zone for pollutants of concern in discharges to waters listed according to section 303(d) of the Clean Water Act. What is the legal basis of this determination? (29)

The fact sheet states that failing to sample during a quarter where an appropriate rainfall event occurred will be a violation of the permit. Such events do not always result in a discharge. The permit does not seem to include the same language. What is meant here? (29)

The fact sheet states that suspension of monitoring for 303(d) listed parameters can only occur if there are eight consecutive samples of zero detect. This is not reasonable. (29)

We do not understand why Ecology used turbidity since there is no set correlation between it and total suspended solids. The application of turbidity is also incorrect because it does not consider background conditions in the receiving water. (29)

**Response:** The fact sheet is not typically revised as a result of public comment. The permit changes as a result of public comments and the response to comments become a part of the final fact sheet. As such, any corrections are included. Ecology agrees that this could be

confusing to readers of the fact sheet after the final permit is issued. However, unless there is very significant error, the fact sheet will not be changed. Ecology does not believe that the current fact sheet requires change beyond the inclusion of the response to comments.

Ecology does not agree that the water quality standards (criteria) are flawed in respect to stormwater. As the fact sheet points out there are challenges in determining compliance with standards as they apply to a stormwater discharge but this does not mean that standards should be considered guidance. There is no authority by which this general permit could in fact dismiss standards as guidance.

As discussed earlier, Ecology is charged with protecting the beneficial uses of the state’s waters. Listings of impairment demonstrate that at least during some periods, the waters have exceeded standards for one or more pollutants. There is no dilution available for a pollutant if the receiving

water exceeds standards for that pollutant. The permit correctly recognizes that dilution cannot be applied and hence the mixing zone is not applicable. This is consistent with Washington state regulations as well as federal regulations.

Ecology regrets the confusion on in the fact sheet language as it applies to sampling during a quarter where an appropriate rainfall event occurred. Appropriate rainfall event was supposed to include events that met sampling criteria. Sampling criteria includes the presence of a discharge during normal business hours. No sample is not a permit violation if there was no storm event during a quarter that could be sampled according to the criteria. The intent of this fact sheet discussion was to emphasize that the Permittee must plan ahead and be ready to sample when a qualifying even occurs. It would not be acceptable, for example, to take no sample because the Permittee decided to only sample on the third Tuesday of the second month of a quarter. There is some flexibility here but the Permittee must make a good faith effort to capture a sample according to criteria each quarter.

As stated previously, Ecology agrees that zero detect is a higher standard then may be necessary to determine no reasonable potential to cause or contribute to a water quality violation. Zero detect was an easier approach and the permit will retain it but language was added to allow for a statistical determination of “no reasonable potential”.

Ecology has not tried to make a correlation between turbidity and total suspended solids (TSS) and is not sure why this is expected. TSS can be tied to turbidity based on site-specific consideration but the use of turbidity in the permit is tied to Ecology’s historical use of that parameter as evidenced by its inclusion in water quality standards. Ecology believes the comment about lack of consideration of the standards (background condition in the receiving water) is in reference to the benchmark value used by the permit. The benchmark value is a best professional judgment determination of a value that is sufficiently protective that it is highly unlikely that any discharge at or below the benchmark will cause a water quality violation. The number was intended to be conservative and widely protective. Exceeding the benchmark does not mean that there is a water quality violation. The commenter is correct that a determination of a water quality violation requires the background turbidity of the receiving water.



## NUMBERED LISTING OF COMMENTERS

### List of Organizations/Individuals

#### Public Testimony

Testimony Provided By:	Representing
1. Sean Callahan	self
2. Sharon Churchhill	US Bureau of Reclamation
3. Hal Covey	Covey's Auto Parts
4. Brian Ferrill	Pull A Part
5. Kate Floumer	self
6. Mark Forcum	U-Pull-It Auto
7. Kris Holm	Water Resource
8. Sue Joerger	Puget Soundkeeper Alliance
9. David Manelski	Puget Soundkeeper Alliance
10. Pat Pearson	Puget Soundkeeper Alliance
11. Tom Putnam	Puget Soundkeeper
12. William Riley	City of Bellingham
13. Judy Schramm	WaferTech
14. Lynn Scott	Puget Soundkeeper Alliance
15. Lindsey Unruh	TOYOCOM Devices of America
16. Dan VanderKolk	self

#### Written Comments (Submitted by May 17, 2002)

Organization	Submitted By
17. Air Transport Association of America	Richard Davis
18. Association of Washington Business	Grant Nelson
19. Automotive Recyclers of Washington	Hal Covey
20. Boeing	Mel Oleson
21. Citizens for a Healthy Bay	Wendy Church
22. City of Bellevue Utilities	Rick Watson
23. City of Kennewick	Steve Plummer
24. Del Monte Foods	Timothy Ruby
25. Environmental Compliance Consultant	Robin Sandell
26. Farallon Consulting	Peter Jewett
27. Kennedy Jenks	Nathan Graves

28. Kitsap County Public Works	Stan Olsen
29. Northwest Mining Association	Laura Skaer
30. Northwest Pulp and Paper Association	Llewellyn Matthews
Northwest Pulp and Paper Association Attachment	
31. Olmpian Precast Inc.	Judy Jewell
32. PACCAR	Vicki ZumBrunnen
33. Parametrix, Inc.	
34. People for Puget Sound	Bruce Wishart
35. Port of Seattle	Susan Ridgley
36. Public Employees for Environmental Responsibility	Lea Mitchell
37. Puget Creek Restoration Society	Scott Hansen
38. Puget Sound Water Quality Action Team	Scott Redman
39. Puget Soundkeeper Alliance	Sue Joerger
40. Resources for Sustainable Communities	Robyn du Pre'
41. Smith & Lowney	Richard Smith
42. Stormwater Management Inc.	Calvin Noling
43. WaferTech	Judy Schramm
44. WestFarm Foods	Joseph Muller
45. Weyerhaeuser	Ken Johnson
46. Self	S Armentrout
47. Self	Mark Kaufman
48. Self	Doug Lyons
49. Self	Marc Pacifico

**Written Comments (Submitted after May 17, 2002)**

Organization	Submitted By
50. Boise Cascade Corporation	Andrew Marshall
51. Longview Fibre Company	
52. Seattle Public Utilities	Sally Marquis
53. Snohomish Co Surface Water Mgmt	Bill Leif